SERVICE MANUAL

OKI

OKIFAX 170

Version 1.4

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1. GENERAL INFORMATION

The purpose of this document is to help service centre's and authorized partners to carry out service to the products. This Service Manual is to be used only by authorized service suppliers, and the content of it is confidential. Please note that the producer also provides other guidance documents (e.g. Technical Information Bulletins) for service suppliers, follow these regularly and comply with the given instructions.

Please keep in mind that this documentation is continuously being updated and modified, so watch always out for the newest version.

1.1. Change History

Status	Version No.	Date	Comments
Final Release	1.0	04.12.2009	
Release 1.1	1.1	07.04.2010	Layout changes
Release 1.2	1.2	08.05.2010	Various content changes
Release 1.3	1.3	01.08.2010	
Release 1.4	1.4		

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1.2. Copyright

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1.3. Warnings and cautions

Please refer to the device's user guide for instructions relating operation, care and maintenance including important safety information.

W A R N I N G

Before opening the machine disconnect the power cable.
Never remove the housing or cover from the power supply!

--== H I G H V O L T A G E ==--

This device uses high voltage. Always disconnect the power cable before disassembling the device to avoid any damage to one's health.
After reassembling the device, the same safety tests as in the production line have to be performed. Please find more information in chapter 10 "Safety test specification"

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Test procedure:

a. Earth-Continuity Test
b. Isolation Test
c. High Voltage Test: Primary/Mains – Secondary (USB)
d. High Voltage Test: Primary/Mains – Telephone line

While servicing the device please take care about the following cautions:

1. Servicing and alignment have to be undertaken by qualified personnel only.
2. Ensure all work is carried out at an anti-static workstation and that an antistatic wrist strap or antistatic shoes are always worn.
3. Use only approved components as specified in the spare part list.
4. Ensure all components, screws and groundings are correctly re-fitted after servicing and alignment.
5. Ensure all cables and wires are repositioned correctly to avoid damages and failures or EMC deviations.

1.4. ESD Protection

The manufacturer requires that service points have sufficient ESD protection against static electricity when servicing the device.

The device may only be serviced in an ESD protected workplace.

All service technicians have to wear an ESD wrist strap ground connected or ESD shoes.

All ESD sensitive parts have to be packed in metalized protective bags during shipping and handling outside any ESD Protected Area.

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1.5. Care and maintenance

The suggestions below will help you to avoid any warranty obligations during the service process.

- Keep the device always dry. Humidity and all types of liquids can effect in a short circuit of electronic parts or impact the grease of mechanical parts negatively.
- Do not use or store the device in dirty or dusty areas to avoid mechanical damage.
- Do not store the device in hot areas or under direct solar radiation. This can shorten the life of the device, can warp or melt certain plastic parts or can result in heated housing parts.
- Do not drop, knock or shake the device. Rough handling may break mechanical or electronic parts.
- Do not use harsh chemicals for cleaning the device. Use only recommended rinsing solution.
- Use only soft sheets to clean housing parts to avoid scratches.
- Do not apply any unwritten changes to the device without prior order.

1.6. Necessary tools for servicing

- Screwdriver / insert bit TX6
- Screwdriver / insert bit TX10
- Phillips head screwdriver
- Slotted screwdriver
- Tweezers
- Tonges

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2. DEVICE INFORMATION

2.1. General list of features

Paper:

- Paper cassette for up to 250 pages
- Paper out capacity: 100 pages
- Automatic feed: 60–105g/m²
- Manual feed: 60–165g/m²
- Paper formats: A4, A5, B5 (JIS) Letter, Legal (13 and 14 inch), Exec

Printing:

- Single and duplex printing
- Printing speed (simplex): up to 24 ppm (A4)
- Printing speed (duplex): 16 ppm (A4)
- Printing emulation: GDI, PCL and PC+LAN
- Resolution: 1200x600, 600x600, 300x300 selectable

Scanning:

- Sheet feed document scanner
- Automatic document feeder for ≤ 30 documents face down
- Fixed contact image scanner: 8bit @ 200dpi / 600dpi
- Grey-scale and colour scanner

Telephone / Fax:

- Corded phone
- External line connector
- CLIP
- Phonebook

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Lists and reports:

- Transmission report
- Reception report
- Actual settings
- Function list
- Phonebook entries
- Caller ID list
- Journal
- Cartridge order fax
- Predefined fax forms
- Sudoku
- Easy install
- Help functions

Computer connection:

- Microsoft Windows® 2000, XP, Vista, 7
- Apple® Mac OS X 10.3.x and above
- Linux (drivers only)
- USB 2.0 high speed connection
- LAN connection (RJ45) – only high range

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2.2. Product Range

The SFL product range can basically be spitted into 3 different ranges.
The exact product specifications may vary between different brands or OEM-customer wishes.

Low-Range

- **ECO mode**
- **(Telephone)**
- **COPIER**
  30p ADF
  250p paper tray
- **FAX**
  14k4 modem
  Up to 200p memory

Mid-Range

- **optional PC-interface**
  24ppm printing speed
  200dpi B/W-scanner
- **ECO mode**
- **USB-host** (front)
- **(Telephone)**
- **COPIER**
  30p ADF
  250p paper tray
- **FAX**
  Up to **33k6** modem
  Up to **400p** memory

High-Range

- **ECO mode**
- **WIFI option**
  802.11b/g
- **LAN**
  Scan & print
- **USB-host** (front)
- **PC-interface**
  PCL6 Printer
  24ppm printing speed
  16ppm DUPLEX
  600dpi **colour**-scanner
- **COPIER**
  30p ADF
  250p paper tray
- **FAX**
  33k6 modem
  Up to **600p** memory

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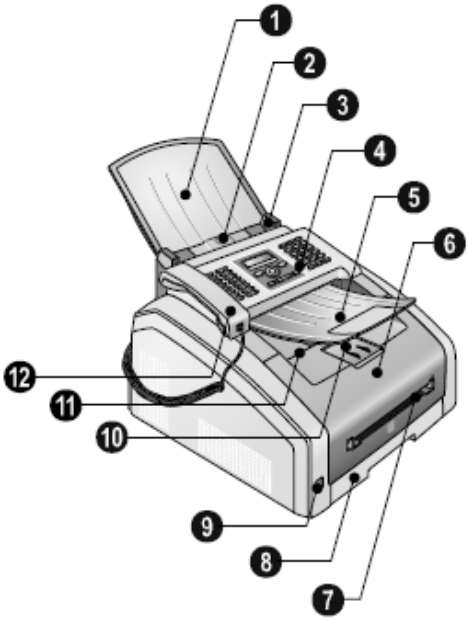
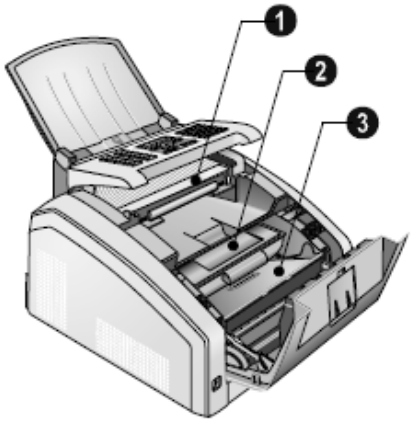
2.3. Device overview

Device Overview

❶ Document support
❷ Document feed slot
❸ Document guide
❹ Panel with display
❺ Document outlet tray
❻ Device cover
❼ Manual paper feed
❽ Paper tray
❾ ⇠- Socket—USB Host connection for storage medium
❿ Printer output tray
⓫ Print output
⓬ Telephone handset with spiral cable (model dependent)

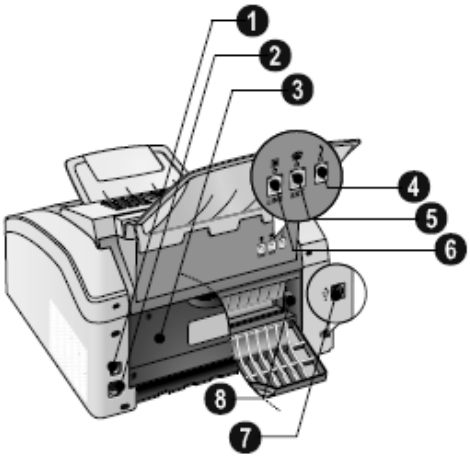


❶ Scanner glass
❷ Toner cartridge
❸ Paper jam door (print unit)



Connections on the Rear Side

❶ On/Off switch
❷ Mains cable socket
❸ Paper jam door (fuser unit)
❹ ⌇ socket—Connection socket for the telephone (model dependent)
❺ **/EXT.** socket—Connection socket for additional devices
❻ **/LINE** socket—Connection socket for telephone cable
❼ ⇠ socket—USB connection for the computer (model dependent)
❽ Tension lever of the fixer unit **(Two levers!)**



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Panel with Display

Keys (**A—Z**)—Telephone book register: Calling up telephone book entries / entering letters.

@..—Entering special characters (punctuation marks and symbols). Select the entries with ▲/▼. Confirm with **OK**.

â..—Entering language specific special characters (special letters). Select the entries with ▲/▼. Confirm with **OK**.

⇧—Shift key: entering capital letters / in combination with other keys: calling additional functions

A-Z🕮—Calls up telephone book functions

Red lamp ⚠—If the lamp flashes or is lit, please read what is indicated on the display

Green Lamp 🖹—The green lamp 🖹 on the panel will be lit whenever there is a fax present in the memory.

⊘—Function abort / return to the starting mode

C—Returning to the previous menu level / deleting individual digits

▲/▼—Calling the menu functions / navigation within the menu / selecting options / moving the cursor

OK—Calling the menu functions / confirming input

◇—Starting transmission of message / starting action

FAX—Start a fax transmission or fax reception

COPY—Press twice: making copies automatically. Press once: adjusting copies

F—Setting higher resolution for faxes and copying (DEFAULT, FINE, SFINE, PHOTO)

i—Print lists: Function list / fax journal / telephone book / jobs list / calendar / fax templates / settings

•✱—Broadcasting: You can send one fax to multiple recipients in succession.

ECO—Set up power saving and toner saving functions / make a copy using the toner saving function

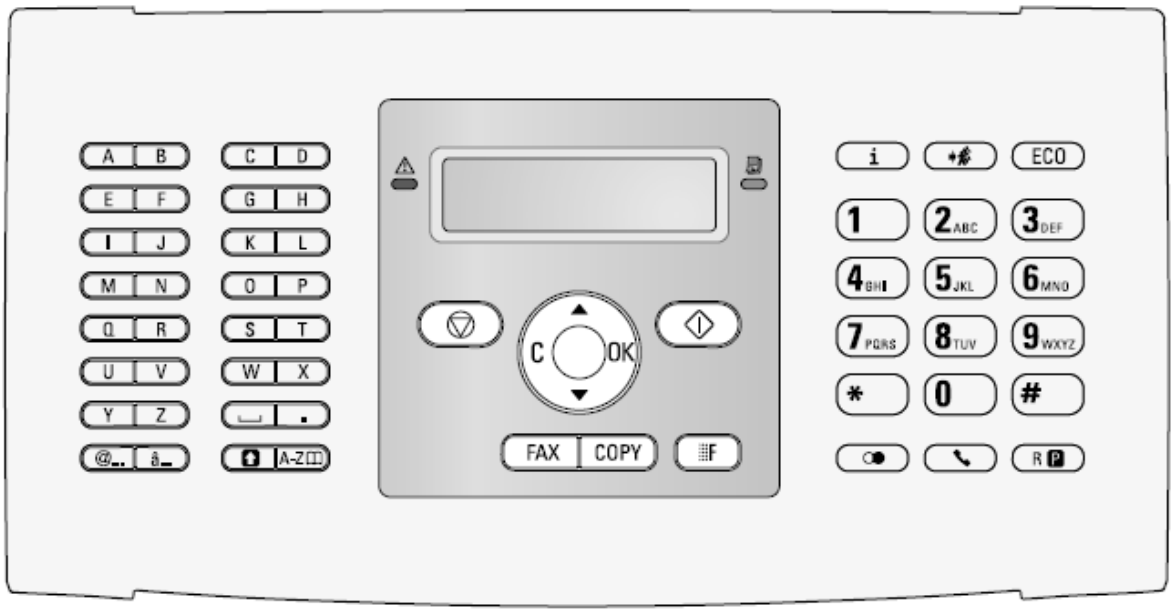
Numeric keys (0—9)—Entering digits

●—Redial / caller list: The redial / caller list contains the last numbers dialled and the last calls received (◂ indicates the numbers dialled, ▸ the calls received and ✱ the calls missed).

✆—Listening while the connection is established / Dialling with the handset replaced (model dependent)

RP—Insert short line interruption (Hook Flash) as office index on PABX or for calling special functions in the public telephone network (PSTN)

⇧ and **R**P—Inserting dialling pause



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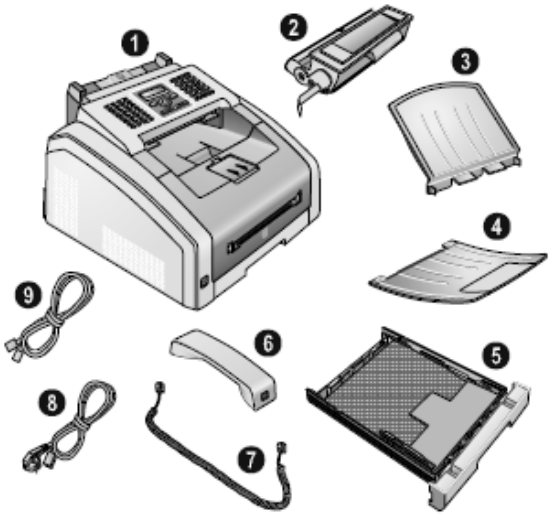
2.4. Packing Content and initial operation

Packing Contents

❶ Device
❷ Starter cartridge (already installed)
❸ Document support (in the paper tray)
❹ Document outlet tray (in the paper tray)
❺ Paper tray (already installed)
❻ Telephone handset
❼ Spiral cable for telephone handset (mode
❽ Mains cable with plug (country-specific)
❾ Telephone cable with plug (country-specific)
User manual with installation guide (not depicted)
Installation-CD (not depicted)



Notice

Missing Package Contents
If one of the parts is missing or damaged, please contact your retailer or our customer service.

Removing Packaging Material

Removing Packaging Material from the Device

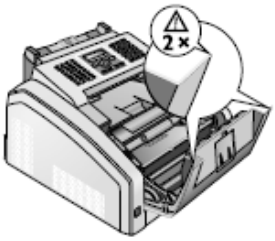
Remove the existing tape used for transportation from the device.

Remove the Packaging Material from the Toner Cartridge

1 Open the device by lifting the device cover forwards

DANGER!

Edges on the Device Cover!
Take care of the edges on the device cover. You could injure yourself if you reach into the device from the side.



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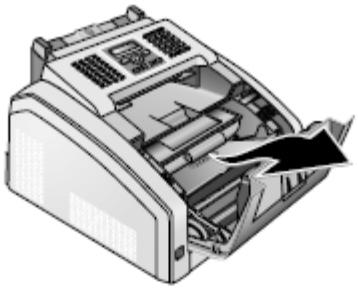
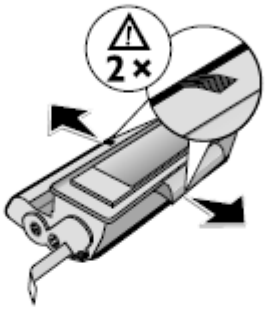
2 Remove the toner cartridge by gripping the handle in the middle and pulling it forwards out of the device



3 Remove the tape and protective paper, **but do not remove the protective strip from the cartridge yet** .

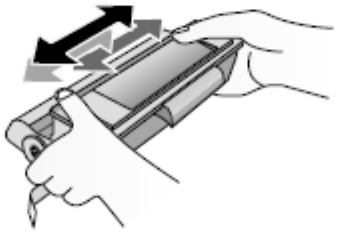


DANGER!

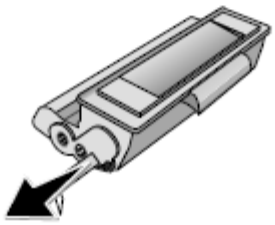
Escaping Toner Dust!

Never open a toner cartridge. If toner dust is released into the air, you should avoid allowing it to contact your skin and eyes. Do not inhale the released toner dust. Remove the toner dust from clothing or objects with cold water; hot water would only cause the toner to set. Never remove loose toner dust with a vacuum cleaner.

4 Shake the new toner cartridge back and forth several times in order to distribute the toner evenly, thereby improving the print quality.



5 **Only after** completely pull off the protection strip located on the left side of the cartridge.

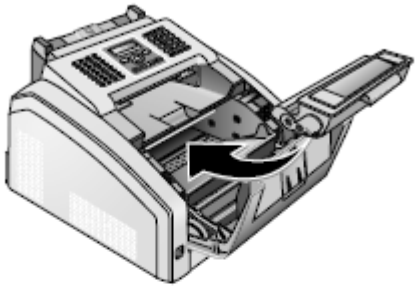


DANGER!

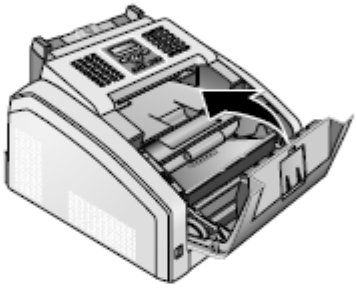
Escaping Toner Dust!

Once you have removed the protection strip, do not shake the toner cartridge any more. Otherwise, it is possible that toner dust will be released into the air.

6 Place the toner cartridge into your device. The cartridge should snap securely into position.



7 Close the device.



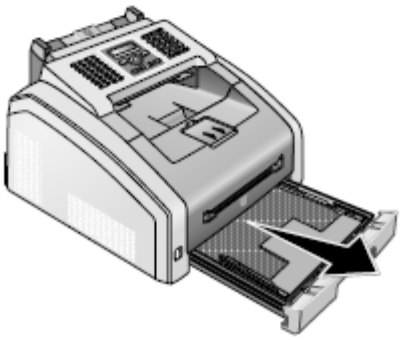
CAUTION!

Toner Cartridge Not Inserted Correctly!

If the device cover would not close, the toner cartridge is not inserted correctly. Take the toner cartridge out and insert it again correctly.

Remove the Packaging Material from the Paper Tray

1 Pull the paper tray out of the device.



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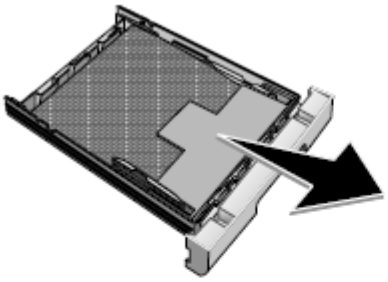
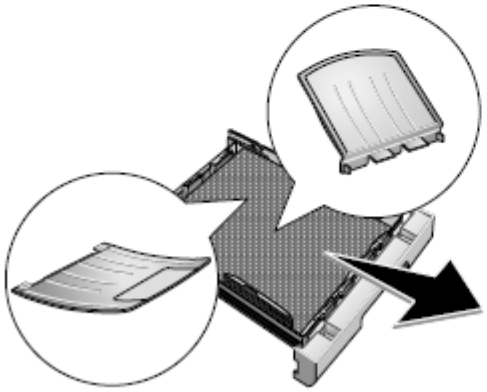
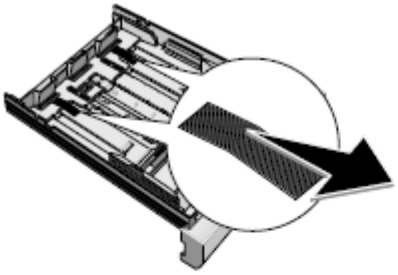
2 Please remove the protective cardboard from the paper tray before loading paper.



3 Remove the document support and the document outlet tray from the paper tray.



4 Removing the tape in the paper tray which was used for transportation purposes.

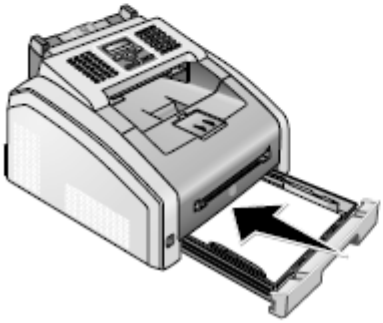


Notice

Loading Paper

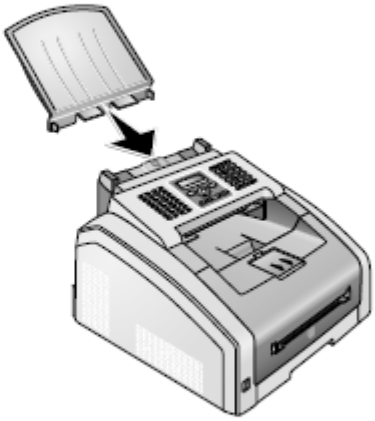
Adjust the paper tray to the paper and insert the paper (see also chapter *Printing Media*, page 23).

5 Push the paper tray into the device all the way to the stopping point.



Attaching the Document Support

Insert the document support into the two openings in the cover. The document support should snap securely into place.



Fold Out the Print Out Support

1 Fold the additional printer output tray forward.

CAUTION!

Do Not Use the Paper Stopper with Legal Paper!

Do not pull out the additional paper stopper on the print out support if you are printing on Legal paper.

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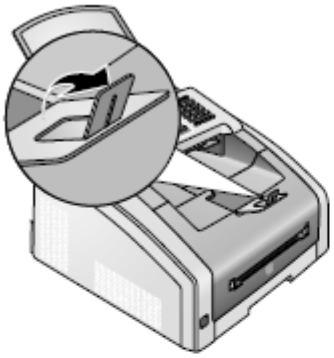
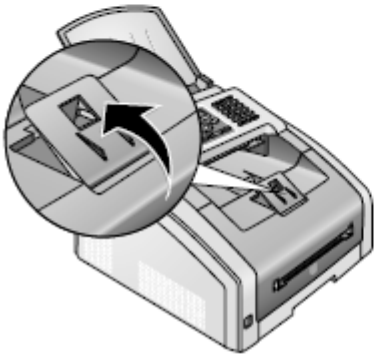
2 **Printing on A4 Paper:** Pull out the additional paper stopper on the print out support.



3 **Printing on A5 Paper:** Fold the print out support with the pulled out paper stopper back again.

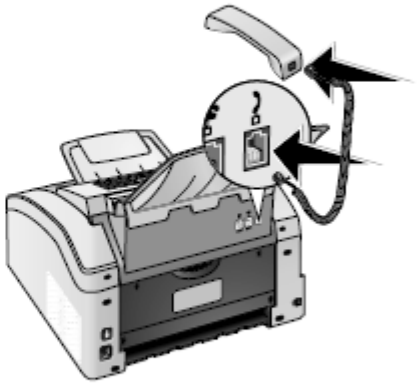


Attaching the Document Outlet Tray

Insert the document outlet tray into the two openings under the operation panel.

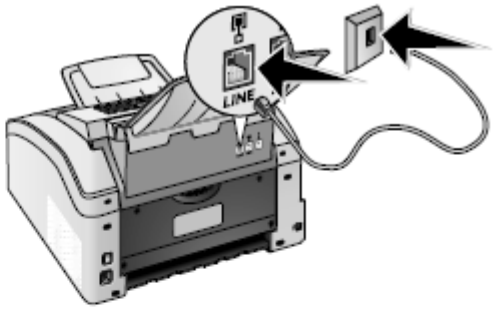
Connecting the Telephone Handset

Plug one end of the spiral cable into the socket on the telephone handset. Insert the other end into the socket designated with the symbol.



Connecting the Telephone Cable

Connect the telephone cable to the device by inserting it in the socket designated with **/LINE** (RJ-11-Connector). Insert the telephone plug into your PTT line socket.



CAUTION!

Connection to an ISDN system!

You can not connect your devices directly to the digital output of the ISDN system. Details for ISDN connections can be found in the instructions provided with the terminal adapter or the dial-up router.

Notice

Connection to Private Automatic Branch Exchange

If you connect your device as extension to a telephone system, you must set it for working as an extension (also see Chapter *Telephone connections and additional devices*, page 47).

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2.5. Function List *sample* (Print with menu 81)

FUNCTION LIST

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YOUR NAME:
YOUR FAXNR:

Select the function:
- Press the key UP or DOWN
- Enter the number of the item

1 COPY
- 11 STANDARD COPY — Make Copy Using Standard Settings
- 12 COPY PROFILE2 — Make Copies Using the Second Profile
- 13 ZOOM COPY — Make Enlarged or Compressed Copies
- 14 MOSAIC COPY — Copying Several Documents onto one Page (Mosaic Copy)
- 10 COPY SETTINGS
  - 103 RESOLUTION — Setting the Resolution for the Copier
  - 104 CONTRAST — Setting the Contrast
  - 105 BRIGHTNESS — Set the Level of Brightness for the Copier
  - 106 PROFILE 2 — Configure Settings for Second Profile

2 PRINTER
- 20 PRINT SETTING
  - 201 PAPER TYPE — Set Paper Weight
  - 202 PAPER TRAY — Set Paper Source
  - 203 PAPER SIZE — Setting the Paper Format

4 FAX
- 41 TRANSMISSION — Sending a Fax
- 42 POLLING — Poll Faxes
- 45 FAX-TEMPLATES — Printing the Fax Templates
- 40 FAX SETTINGS
  - 401 SEND — Set Fax Transmission
  - 402 RECEIVE — Set Fax Reception
  - 403 SECURE FAX — Setting Protected Fax Reception
  - 404 TIME STAMP — Switches Time Stamp On/Off

5 TELEPHONE
- 51 PHONEBOOK
  - 511 SEARCH — Looking up an Entry
  - 512 NEW ENTRY — Saving New Entries
  - 513 NEW GROUP — Creating Group
  - 514 EDIT ENTRY — Edit Entry
  - 515 DELETE ENTRY — Deleting an Entry
  - 516 PRINT — Printing the Telephone Book

7 COMMANDS
- 71 PERFORM — Immediate Job Execution
- 72 MODIFY — Changing a Job
- 73 DELETE — Deleting a Job
- 74 PRINT — Printing a Job
- 75 PRINT LIST — Printing the Job List

8 REPORTS
- 81 FUNCTION LIST — Printing the List of Available Functions
- 82 LOGS — Printing Fax Journal/Call Log
- 83 PHONEBOOK — Printing the Telephone Book
- 84 COMMANDS — Printing the Job List
- 85 CALENDAR — Print Calendar
- 87 FAX-TEMPLATES — Printing the Fax Templates
- 80 PRINT SET-UP — Printing List of Settings

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FUNCTION LIST

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9 ADVANCED	
92 LOCK	
921 LOCKING CODE	Entering the PIN Code
922 LOCK KEYBD.	Locking the Keyboard
923 LOCK NUMBER	Locking Manual Dialling
924 LOCK PARAMS	Lock Settings
93 MAINTENANCE	
931 CALIBRATION	Calibrating the Scanner
933 SERVICE CODE	Using Service Codes
934 VERSION	Checking the Firmware Version
94 COUNTERS	
941 SENT PAGES	Display the Number of Fax Pages Sent
942 RECEIVED PGS	Display the Number of Fax Pages Received
943 SCANNED PGS	Display Number of Scanned Documents
944 PRINTED PGS	Display Number of Printed Pages
945 COPIED PGS	Display Number of Copied Pages
946 TONER LEFT	Displaying the Toner Level
0 SETUP	
01 DATE/TIME	Entering the Date and Time
02 NUMBER/NAME	Entering Your Telephone Number and Name
021 YOUR NAME	YOUR NAME
022 YOUR FAXNR	YOUR FAXNR
03 GEOGRAPHICAL	
031 COUNTRY	Setting the Country
033 LANGUAGE	Setting the Language
04 TEL/FAX	
041 TEL/FAX MODE	Setting the Fax Reception Mode
042 RINGS	Setting the Number of Ring Tones for Fax Reception
05 TEL.NETWORK	
051 LINE TYPE	Switch PABX Operation On/Off
052 PREFIX	Setting the Outside Line Access Code
054 DEFAULT RING	Selecting the Ring Tone
055 RING VOLUME	Setting the Ring Volume
00 TECHNICALS	
001 FAX PARAMS	FAX PARAMS
002 ECO SETTINGS	Setting the Power and Toner Saving Functions.
007 KEY BEEP	Deactivating the Button Tones

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2.6. Print Set-Up list *sample* (Print with menu 80)

PRINT SET-UP

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YOUR NAME:
YOUR FAXNR:

INFORMATION MENU		
	FW REVISION	TR3 V3
	PRINTER SERIAL	LT09310FD0A0026
	BUILD NUMBER	129
	HW REVISION	
	MAB REVISION	253196595E002 LT09239FDA00030
NETWORK MENU		
	USB NETBIOS NAME	SFX0923900030
	IP ADDRESS ETH OV USB	169.254.177.194
GEOGRAPHICAL		
	COUNTRY	AT
	NETWORK	OTHERS 1
	LANGUAGE	ENGLISH
	TIME ZONE	CET-1CEST-2
TEL.NETWORK		
	LINE TYPE	PSTN
	DIAL MODE	DTMF
	TEL.IMPEDANCE	COMPLEX
	RINGS	3
	NO. SIZE	10
	PFX SETTING	
	DEFAULT RING	RING TONE 1
	RING VOLUME	MEDIUM
	CLIP	ON
SETTINGS		
	KEY BEEP	ON
PRINT SETTINGS		
	PAPER TYPE	MEDIUM
	PAPER TRAY	AUTO. TRAY
	MANUAL TRAY	A4
	AUTO. TRAY	A4
FAX SETTINGS		
	SECURE FAX	OFF
	E.C.M.	OFF
FAX SEND		
	SCANNING MOD	FINE
	TX HEADER	OFF
	TX SPEED	14400
	DISPLAY	PAGE NO.
FAX RECEIVE		
	RX SPEED	14400
	DISCARD SIZE	OFF
POWER SAVE		
	POWER SAVE TIME	0MIN.
COUNTERS		
	SENT PAGES	0
	RECEIVED PGS	0
	SCANNED PGS	3
	PRINTED PGS	56
	COPIED PGS	7
	TONER LEFT	77%
	CONSUMABLE REPLACED	0
COPY		
	RESOLUTION	AUTO
	CONTRAST	4
	BRIGHTNESS	4
COPY PROFILE2		
	RESOLUTION	AUTO
	CONTRAST	4
	BRIGHTNESS	4

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3. TECHNICAL DATA

3.1. General

Dimensions (W x D x H)	390mm x 390mm x 291mm
Weight	Device only: 8,8 kg
	Cartridge: approx. 0,8kg
Mains connection	EU version: 195-264V / 47-63Hz US version: 100 -140V / 47-63Hz Power On/Off switch
Power consumption	Standby: < 4Watt Printing: < 980 Watt
Produced noise	1. Standby: <30 dBA 2. maximum: <48dbA (printing) <53dBA (copying)
Recommended Ambient	Temperature: 18 ~ 28°C Humidity: 20 ~ 80% Non condensing
Supported languages	DE, FR, UK, IT, ES, PT, NL, SE, NO, DK, SF, CZ, PL, HU, RO

3.2. Toner Cartridge

Type	All in one cartridge
Test specification	ISO 19752:2004
Toner technology	Grinded magnetic toner
Page counter	Chip on cartridge
Capacity	Starter cartridge: 500 pages After-Sales: 2000 pages

3.3. Printer

Type	Class I LED laser with double insulation
Printing speed	24ppm (A4), 25ppm (Letter) Auto duplex
Resolution	300dpi x 300dpi 600dpi x 600dpi 600dpi x 1200dpi
Grey levels	up to 2bits per pixel
printer emulation	GDI, PCL (device dependent)

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3.4. Scanner

Document Transportation	Sheet feed document scanner Automatic document feeder for ≤ 30 documents face down
Scanner	Grey-scale and colour scanner (high-range only)
Scanner type	Fixed contact image scanner: 8bit @ 200dpi / 600dpi
Scan resolution	Black & white: up to 600x600 (200x400) Colour: up to 4800x4800 (600x400)
Scan settings	Zoom 25% to 400% in steps of 1 % Contrast (7 levels) valid for all scan (copy&fax) Brightness (7 levels)

3.5. Paper

Capacity	paper cassette	250 pages
Paper size	paper cassette	A4, A5, B5 (JIS) Letter, Legal (13 and 14 inch), Exec
	Manual feed	89 to 216mm and 148mm to 355mm
	duplex	A4, Letter, Legal
Paper thickness	paper cassette	0,07 to 0,11mm
	Manual feed	0,07 to 0,15mm
Paper weight	Paper cassette	60g - 105g/m2
	Manual feed	60g - 165g/m²
	Duplex	60g - 105g/m2

3.6. Computer connections

Interfaces	USB device 2.0 (High speed) LAN 10/100Mbit
Supported operating system	Microsoft Windows ® 2000 / XP / Vista / 7 Apple ® Mac OS X Linux

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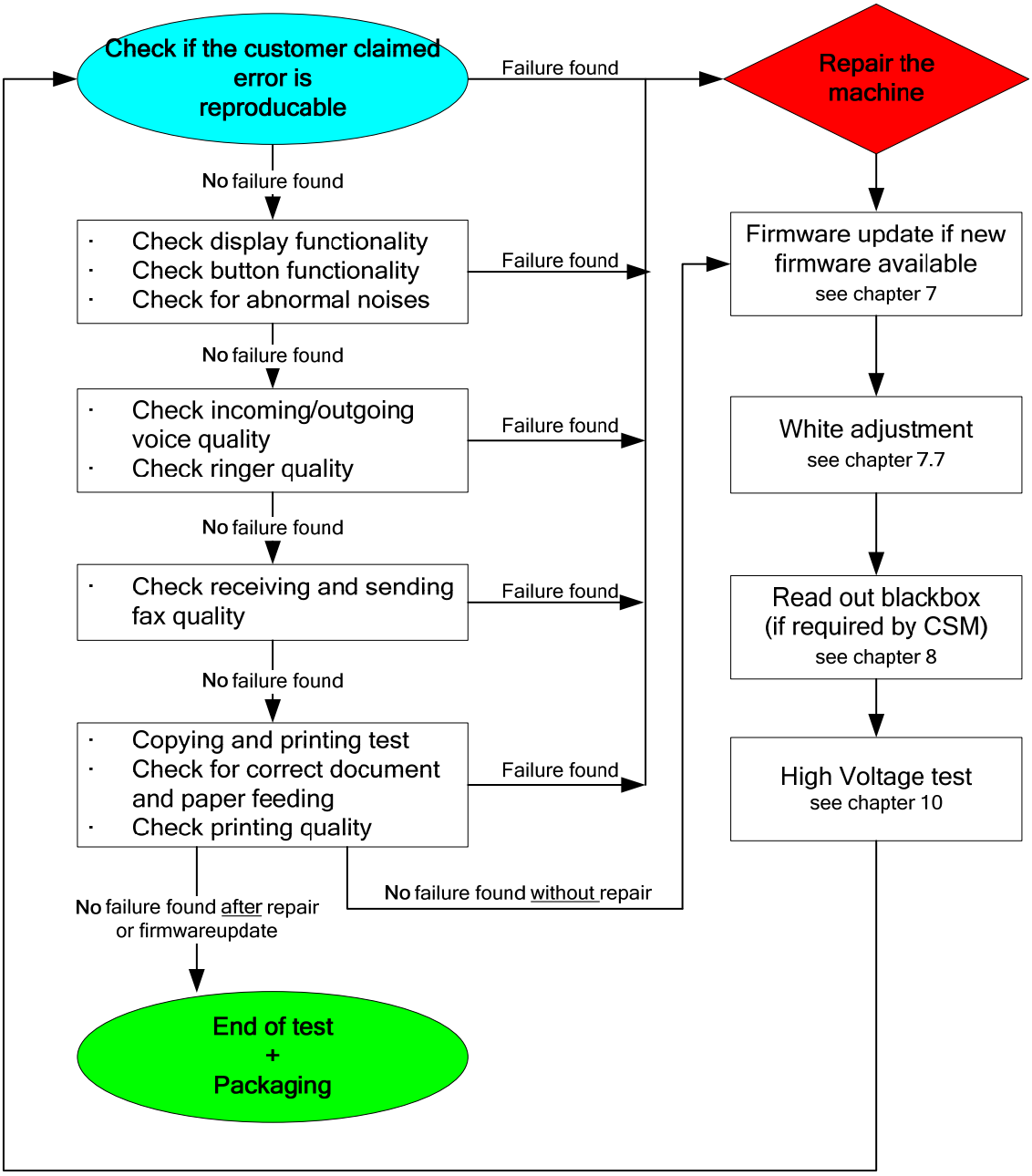
4. TEST PROCEDURE

This chapter describes the minimal required test procedure, which has to be followed with every repair of the machine!
A firmware update and white reference calibration is necessary for every machine, even there has no failure been found!


Check if the customer claimed error is reproducable
Failure found
Repair the machine
No failure found
· Check display functionality
· Check button functionality
· Check for abnormal noises
Failure found
Firmware update if new firmware available
see chapter 7
No failure found
· Check incoming/outgoing voice quality
· Check ringer quality
Failure found
White adjustment
see chapter 7.7
No failure found
· Check receiving and sending fax quality
Failure found
Read out blackbox (if required by CSM)
see chapter 8
No failure found
· Copying and printing test
· Check for correct document and paper feeding
· Check printing quality
Failure found
High Voltage test
see chapter 10
No failure found without repair
No failure found after repair or firmwareupdate
End of test + Packaging

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5. ERROR MESSAGES

Description	Display Message	Error Tone	Remark
PRINTER RELATED			
Manual Paper Feed	PUT A4 IN MANUAL TRAY	3 Beeps	When paper is inserted in manual paper tray printing is resumed automatically
Check Paper / Paper Out	PAPER EMPTY PRESS <START>	3 Beeps	Notify process that caused error entry about <STOP> and <START>
Paper Jam / Pickup	PAPER JAM CHECK PAPER TRAY **Toggle with** PAPER JAM PRESS <START>	3 Beeps	Sensors clear + <START>
Paper Jam / Print	PAPER JAM OPEN UPPER COVER	3 Beeps	Sensors clear + cover closed
Paper Jam / Reject	PAPER JAM OPEN REAR COVER	3 Beeps	Sensors clear + cover closed
Paper Jam / Duplex	PAPER JAM REMOVE CASSETTE **Toggle with** PAPER JAM PRESS <START>	3 Beeps	Sensors clear + cover closed + <START>
Media Size Warning	WRONG_PAPER FORMAT	No	Just give warning while printing.
Media Size Error	WRONG_PAPER FORMAT **Toggle with** PRESS <START>	3 Beeps	Restart job from PC driver, Job cancelled and Error message pops up. Box can be closed by pressing <CLOSE>
Toner Low	TONER LOW	No	Proceed printing
Toner Empty	TONER EMPTY	3 Beeps	Toner new + cover closed
Wrong cartridge	NON GENUINE TONER	10 sec.	Cartridge in + cover closed
Defect cartridge	DEFECT TONER	10 sec.	Cartridge in + cover closed
No cartridge	TONER NOT INSTALLED	10 sec.	Cartridge in + cover closed
Print Job Error (PJL)	PRINT JOB ERROR	No	
Cover Open / Upper	CLOSE COVER UPPER COVER OPEN	3 Beeps	
Temperature Rise	COOLING	3 Beeps	Wait for cool down
Pick up motor not moving	PAPER FEED ERROR **Toggle with** PLEASE SWITCH OFF/ON	Endless	No retry! Power on and off!
Data check fails	LED_HEAD ERROR **Toggle with** PLEASE SWITCH OFF/ON	Endless	No retry! Power on and off!
Fuser does not warm up	FUSER_UNIT ERROR **Toggle with** PLEASE SWITCH OFF/ON	Endless	No retry! Power on and off!
SYSTEM RELATED			
Memory Full	MEMORY FULL	3 Beeps	
USB overload	USB OVERLOAD REMOVE DEVICES **Toggle with** PRESS <START>	3 Beeps	Pressing <START> or after a timeout of 40s resumes power on of the USB supply.

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USB MASS STORAGE RELATED			
Memory Full	MEDIA FULL	3 Beeps	
Mass storage not connected	MEDIA MISSING	No	
Not readable / wrong format	WRONG MEDIA	No	
SCANNER RELATED			
Scanner motor overheat	COOLING	3 Beeps	Cooling should start at the end of a page, after cooling continue task.
Document jam in ADF	REMOVE PAPER FROM ADF	3 Beeps	Sensor clear
DECT RELATED			
DECT registration failed	REGISTRATION ERROR	3 Beeps	

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6. SERVICE CODES

Every service code has a fixed length of 5 digits. In this chapter you can find all important service codes. To execute them go to Menu 9-3-3 type the service code and press the <OK> key.

6.1. Test functions

SC	Description	Options
50006	Show consumable info	ID_|IPC_|AFP_|WF|DF <- 1st line ...|....|....|..|.. <- 2nd line ID...cartridge brand ID (e.g.129 = factory) [3 digits decimal] IPC ...initial page counter, e.g. 3000 (= 3000 pages) [4 digits decimal] AFP ...actual free pages, e.g. 1234 (= 1234 pages left on the cartridge) [4 digits decimal] WF ...waste free, e.g. 92 (= 93% free) [2 digits decimal] DF ...drum free, e.g. 89 (=89% free) [2 digits decimal]
50039	**Automatic Document Feed (ADF test)**	Feed up to 30 pages
50105	**Pickup motor decoder test**	The result can be OK or NOK

6.2. Initialisation functions

SC	Short Description	Comment
60005	**Enable Service functions for Parameter Handling**	Function 99 is enabled to edit all parameters
60027	**Print parameter list**	Print whole parameter list (current and default)
60038	**Print system report**	Print system relevant data and whole parameter list
60050	**Enable FAX tx speed display**	Enable display of real current FAX tx speed until Power OFF/ON

6.3. Service functions

SC	Short Description	Comment
70015	**Delete first Print queue entry**	Clear actual or first print queue entry
70026	**Clear all files from print queue**	Clear whole print queue
70060	**Show IP-Address and**	Relevant only if LAN connector exist!!

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	NetMask for LAN	
70070	**Show MAC address**	Show last 5 values e.g. ..:60:4c:c3:f3:bd
70081	**Complete system parameter DB reset/restart**	Whole reset (keeps customer data alive) to "FACTORY" default parameter set and reboot!!!
70125	**Clear all files from send queue**	Delete whole send queue (FAX tx docs) e.g. dial later, re-dial,…
70136	**Show USB Ip address**	Show ethernet over USB IpAddressEthOvUsb
70147	**Show USB Netbios Name**	Show ethernet over USB NetbiosNameOvUsb
70158	**Clear and reset system data to real Factory DEFAULT**	Clear whole system (phonebook, call logs, print and send queues ...) set parameter to "FACTORY" default and reboot!!

6.4. Parameters

To change the parameters you have to enable the parameters with service code 60005. After you have changed the parameters do not forget to disable it again with service code 60016. (After a device restart the Parameters-menu will be disabled automatically.)

Full Parameter list

With service code 60027 you can print out a full list of all parameters including the actual setting and the default.

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Important parameters

'ID	Name	Comment	Standard value
4	EditEnable	#4 Enable parameter editing menu function, True: Allow parameter edit function in menu	False
9	EthStatus	#9 Ethernet Status	0
10	PrinterStatus	#10 Printer Status	0
11	ErrorStatusPrinter	#11 Error Status of the printer	0
17	CopyNumber	#17 Number of copies 1 - 999 used only for PC Print	1
20	IPAddress	#20 IP address of the Device	0
27	EthNetbiosName1	#27 Netbios Name 1	0
30	MuteBuzzerKeyBeep	#30 Key beep mute state 0:audible , 1:muted	0
31	MuteBuzzerSmsTone	#31 Sms tone mute state	0
32	MuteBuzzerFaxTone	#32 Fax tone mute state	0
33	BuzzerVolume	#33 Buzzer volume	3
34	RingVolume	#34 Ring volume	2
35	ToneVolume	#35 Tone volume	3
48	TonerSave	#48 Toner save enable/disable	0
54	FuserStandbyTime	#54 Power save time	0
68	FuserStandby	#68 FuserStandby enable/disable	0
69	Serial	#69 Printer Serial	
73	HWRevision	#73 SLE revision	0
82	FaxToUsb	#82 Fax to USB enable / disable	0
83	Copy1Collated	#83 Collated on/off switching for standard copy	0
85	ConsumableReplaced	#85 How often cartridge is changed	0
121	PrintMargin	#121 Set a nonprintable area of paper	0
127	EasyInstallDone	#127 Easy Install Done	False
128	YourName	#128 User Name	0
138	DialType	#138 DTMF/Pulse dialling	0
142	PstnFlashTime	#142 Flash time (*1 ms)	100
149	RingNo	#149 Number of rings before fax switch is activated	3
155	LoopStatus	#155 Status for loop detection	0
156	ExtPhoneStatus	#156 Status for external phone	0
157	ParPhoneStatus	#157 Status for parallel phone	0
186	ErrorTone	#186 Switch ON/OFF error tone	1
187	EcoStandbyBegin	#187 Eco Standby Begin	-1
188	EcoStandbyEnd	#188 Eco Standby End	-1
189	LastError1	#189 Last error reported by the printer	0
190	LastError2	#190 Last error reported by the printer	0

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191	LastError3	#191 Last error reported by the printer	0
192	LastError4	#192 Last error reported by the printer	0
193	LastError5	#193 Last error reported by the printer	0
194	LastError6	#194 Last error reported by the printer	0
195	LastError7	#195 Last error reported by the printer	0
196	LastError8	#196 Last error reported by the printer	0
197	LastError9	#197 Last error reported by the printer	0
198	LastError10	#198 Last error reported by the printer	0
199	LastError11	#199 Last error reported by the printer	0
200	LastError12	#200 Last error reported by the printer	0
201	LastError13	#201 Last error reported by the printer	0
202	LastError14	#202 Last error reported by the printer	0
203	LastError15	#203 Last error reported by the printer	0
204	LastError16	#204 Last error reported by the printer	0
205	LastError17	#205 Last error reported by the printer	0
206	LastError18	#206 Last error reported by the printer	0
207	LastError19	#207 Last error reported by the printer	0
208	LastError20	#208 Last error reported by the printer	0
210	LedbarSerial	#210 Ledbar Serial number	0
218	LockPassword	#218 Password used for lock feature in policy manager	0
228	Copy1Duplex	#228 Simplex/duplex switching for standard copy	0
231	Copy2Duplex	#231 Simplex/duplex switching for profile 2 copy	0
239	ContrastCopy1	#239 Standard copy contrast setting, range 1 - 7	4
240	ContrastCopy2	#240 Profile 2 copy contrast setting, range 1 - 7	4
241	ContrastFax	#241 Fax contrast setting, range 1 - 7	4
242	ContrastScan	#242 Scanner contrast setting, range 1 - 7	4
246	ErrorCorrectionMode	#246 Error correction mode (E.C.M.) switch off/on for fax	0
257	MABRevision	#257 Layout Nr Assembly	0
288	PauseDial	#288 Time for dialing pause (in ms)	2000
294	PhoneNetworkType	#294 Phone network type	0
295	PhonePrefixSize	#295 Prefix size for external calls	10
296	PhonePrefixSetting	#296 Prefix setting for external calls	0
302	PrintTXReport	#302 Define when TX report will be printed	0
303	FaxRedialTime	#303 Delay between retrial of fax transmission in minutes	2
304	FaxMaxRedial	#304 Number of fax transmission retrials before deleting job from send queue	3
305	RXCopies	#305 Number of copies for received	1

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		documents	
306	GrandMother	#306 True: Redial only when line was busy	False
307	UseV29	#307 True: Use V29 modulation for speed 9600 and 7200	False
311	BurnedNumberEnable	#311 If True enable burned number management	False
312	FaxListenIn	#312 If 1 activate speaker during fax communication	False
313	AutoFaxLog	#313 If True print fax log when full	True
320	PrivatMode	#320 1: Enable private mode	False
330	FaxSwitchLowSpeed	#330 True: Highspeed downgrade (for some fax not T30 compliante	False
332	BrightnessCopy1	#332 Standard copy brightness setting, range 1 - 7	4
333	BrightnessCopy2	#333 Profile copy brightness setting, range 1 - 7	4
334	FaxMemorySend	#334 Memory: Scan document first and send / Feeder: Send directly from ADF	0
349	SudokuEnable	#349 1: Enable sudoku in the menu - activated by service key - ParamID=349	False
390	ManualFeedTimeout	#390 Timeout for the user to insert paper - if paper is not inserted in this timeout the print job is cancelled	60
391	OpuPanelId	#391 opu panel ID e.g. 0: SFL SAGEM, 1: SFL PHILIPS, 2: SFL XEROX	0
396	UsbHostEnable	#396 Enable/disable USB host	False
397	ListenInVolume	#397 Volume setting for listen in	2
411	COSEnable	#411 Enable consumable order sheet (COS) feature	False
424	DialDelayPstn	#424 Time to wait before starting dialing in 1/10 seconds for PSTN	27
425	DialDelayPabx	#425 Time to wait before starting dialing in 1/10 seconds for PABX	27
434	OvertempStatus	#434 Declares if housing temperature is normal or above a critical value	0
446	PabxFlashTime	#446 Flash time (*1 ms)	100
447	ParDetection	#447 Enable/disable parallel phone detection	True
448	ScnAdfPickupCnt	#448 Pickups since last pick failure	0
450	HousingTempZone	#451 Actual temperature zone of FW housing temperatur simulation	0
453	ScanPrintDelay	#454 Delay of scanning a page in ms to slow down the copy process. Needed in some countries.	0

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7. FIRMWARE

7.1. Firmware naming

The firmware file naming is very complex, but you will a lot of useful information inside.

Model_country_Va.bbc__xxx_type.pkg.enc
e.g.: OKI170_EU_V2.011_187.07_internal_transition_V1.pkg.enc

Naming	Sample	Description
Model	OKI170	Modelname
Country	EU	For EU devices
Va.	V2.	Main Revision Level
bb	01	Product type – see below
c	1	Minor revision in the branch Main Revision Level
xxx	187.07	Baseline Version (developer version)
Type	Internal_transition_V1	Package type – see below
.pkg.enc	.pkg.enc	File attributes

Package types :

There are 2 different firmware package types which will be distributed.

user.pkg.enc
example: PH5125_187.07_V2.021_user.pkg.enc
used for service to update a set with new firmware which is backward compatible (e.g. update from V1.011 to V1.012).
Customer data and settings will be kept.

internal transition.pkg.enc
example: PH5125_187.07_V2.021_internal_transition_1.pkg.enc
used for service to update a set with a new FW which is not backward compatible (update from V1.xxx to V2.xxx).

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Customer data and settings will be lost

Depending on the kind of update it might only be one package available!

7.2. FIRMWARE update “SFx Mains and Service Controller”

"SFx Service Controller" is an easy to use tool for package downloading, Black-Box handling and unit testing as well.

Features of this tool are:

- Firmware package downloading
- Print of test files (*.prn) direct from user interface
- Connection verification between PC and UUT (**U**nit **U**nder **T**est)
- Black-Box data handling (Get, Show and Report)

7.3. System Requirements

Minimum Hardware requirements:

- CPU: Pentium class processor (1 GHz or higher)
- Memory: 512MB or greater
- Disk Space: 80MB (Size of Hard disk)
- USB connected SFL
- Internet Explorer Language has to be set to English!
    - Extras/Internet Options/Language/ delete all languages and only add English (en-GB)

Minimum software requirements

- Operating system: Windows XP
- Installed PC-drivers for SFL
- SFx-Mains and Service Controller
- Microsoft Office 2003

7.4. Start-up

To start SFx-Service Controller:

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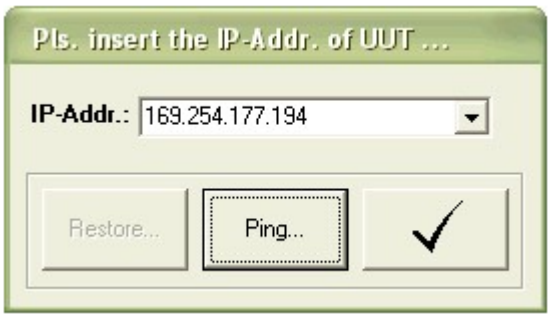
- Double click the SFx-Mains and Service Controller icon on your desktop.
- From the Start menu, select Programs, then SFx Mains and Service Controller and click SFx Mains and Service Controller

Start page



IP-Addr

Select or insert the relevant IP-Address of UUT (Relevant IP-Addr. can be found on the Menu-Map or Set Up printout)

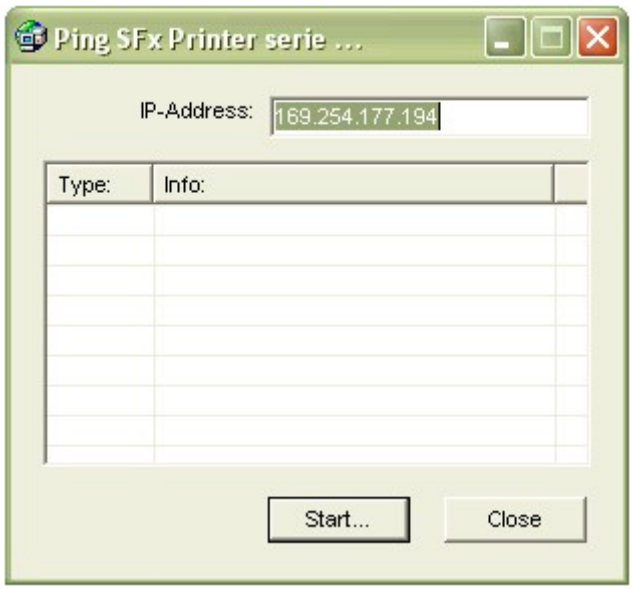
Ping

Open window for to ping (check) the UUT connection.

✓ press (OK)

Leave the start window and start the main page

Ping Tool



Start Start ping session to UUT

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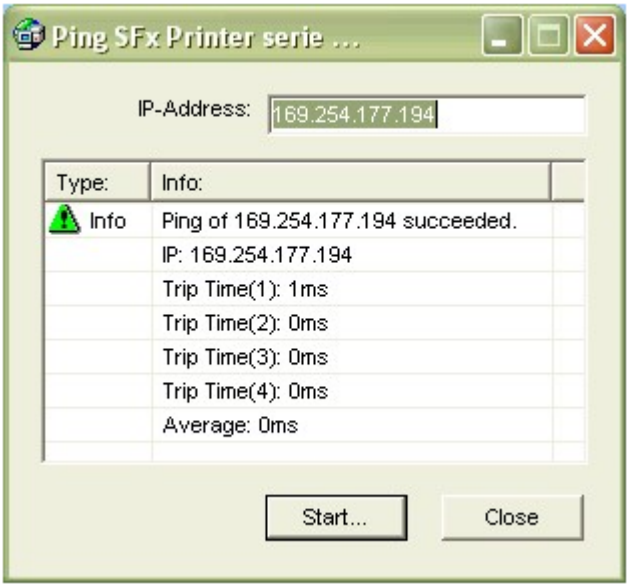
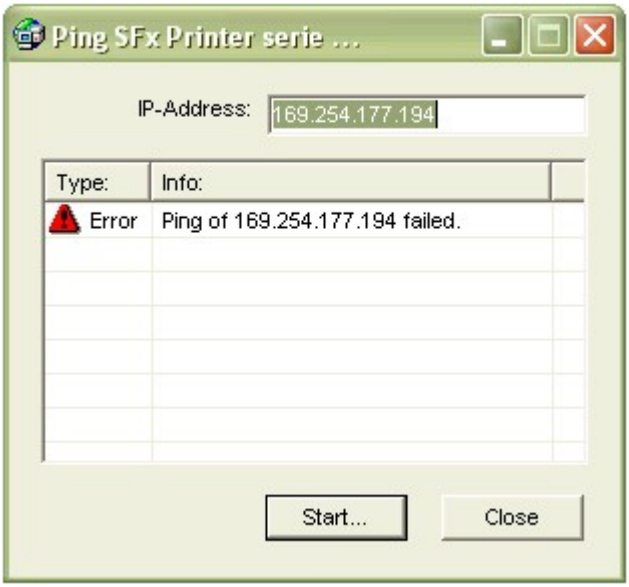
Close Close window and leave (ping) tool

Connection test passed



Connection test failed



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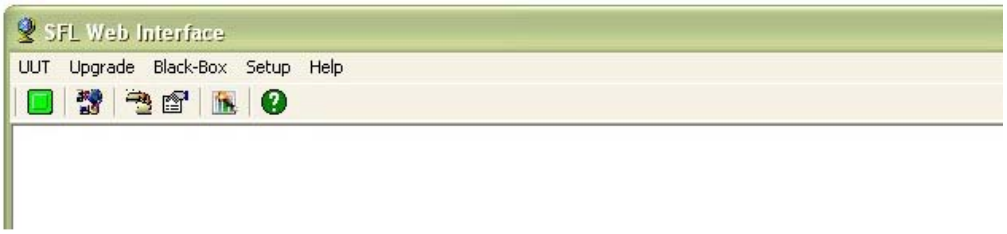
7.5. Main Window

Content Bar



Connect to the UUT - Connect and login to the UUT automatically.

Disconnect from the UUT- Disconnect and log out from the UUT

Start FW package upgrade - Download new FW package to the UUT and reboot.

Get Black Box data from the UUT - Download CSV file and store it on your disk.

Show Black Box data - Show data in a simple form and generate an Excel-Report if needed.

Start Erase package download - All Black Box counters are reseted

Get Help - Start of this document

Status Bar

1.) Selected IPAddress – for connection to UUT
2.) Name of the selected Firmware package – ready for upgrade

4.) Time – Shows actual time
5.) Date – Shows actual time

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7.6. Unit under test - UUT

Connect Ctrl+C
Select this menu point for to connect the application to the UUT

Disconnect Ctrl+D
Select this menu point for to disconnect the application from the UUT

Print
Print Test-Documents on the UUT

Ping... Ctrl+P
Execute an IP-Addr. test to the UUT

Close Ctrl+X
Close this program

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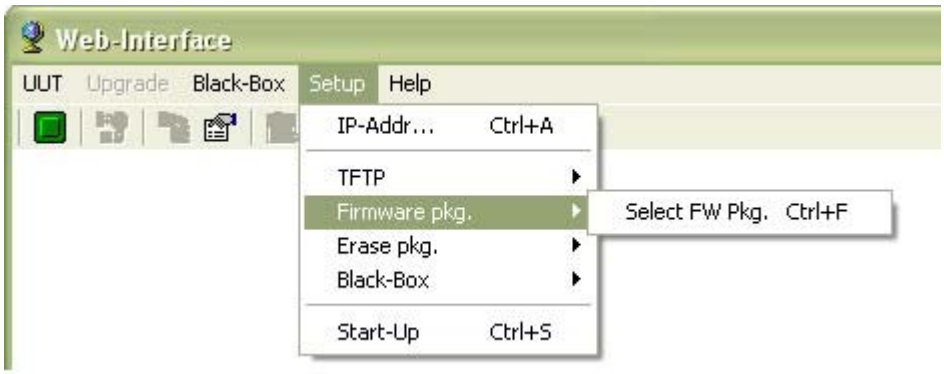
7.7. Firmware upgrade

The device is during repair to be checked if a newer version is available.

Select Firmware package



Select FW Pkg. (Ctrl+F)

Use this menu for to select the FW package location and name.
Before start of FW package upload, check in the status bar if the correct package is selected.

Check firmware version

You can check the firmware version on the device. Go to menu 934 and press ok. First you will get a dialog where you can find the firmware version and the build date of the firmware version

```
VV.01-153.01
08.04.10 15:00
```

Press OK to exit the menu.

Perform firmware update

When you have selected the correct firmware file and the path to the TFTP Server you just have to click on the connect button and afterwards the firmware update button

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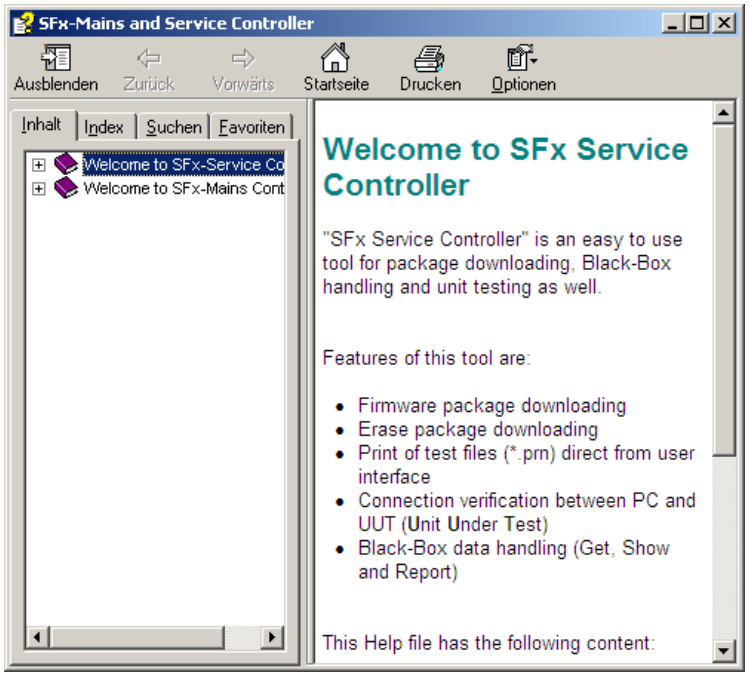
The device will do the update itself and will take at least 3-5 minutes. During this time, the device will reboot automatically and will start-up with easy install mode when finished

7.8. Further functions and help file

After starting SFX Mains and Service controller you can open the help file by pressing the F1 Key.


SFx-Mains and Service Controller
Ausblenden
Zurück
Vorwärts
Startseite
Drucken
Optionen
Inhalt
Index
Suchen
Favoriten
Welcome to SFx-Service Co
Welcome to SFx-Mains Cont
Welcome to SFx Service Controller
"SFx Service Controller" is an easy to use tool for package downloading, Black-Box handling and unit testing as well.
Features of this tool are:
Firmware package downloading
Erase package downloading
Print of test files (*.prn) direct from user interface
Connection verification between PC and UUT (Unit Under Test)
Black-Box data handling (Get, Show and Report)
This Help file has the following content:

7.9. Alternative manual Firmware update method

In any case you have problems to update the firmware with SFx Mains and Service Controller you can try this manual method.

What you need:

- Installed PC drivers
- Connected SFL device
- Tftpd32
- Internet browser

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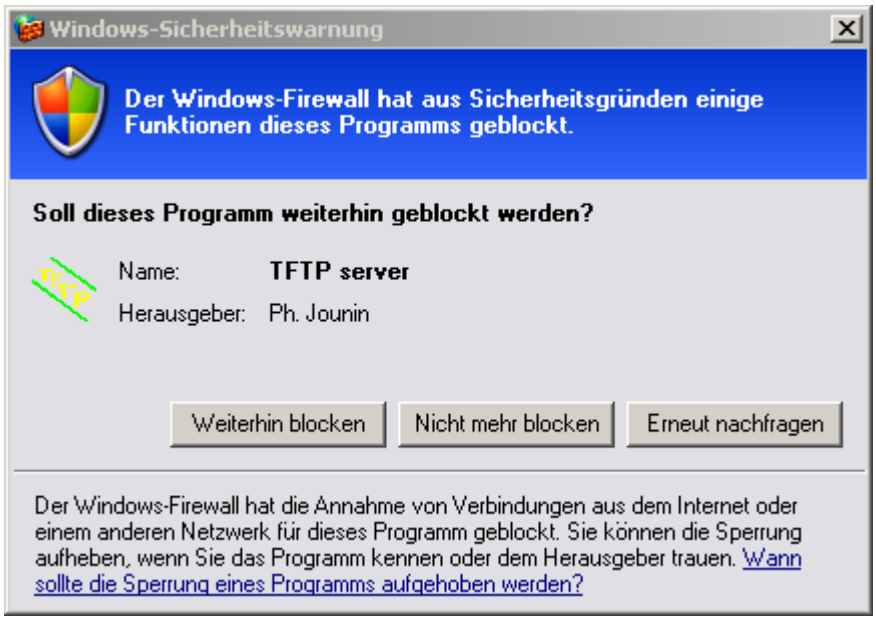
a. Download latest version from tftpd32 from the developer homepage: http://tftpd32.jounin.net/

b. copy the firmware file you want to update into the tftpd32 directory (e.g. C:\tftpd32\

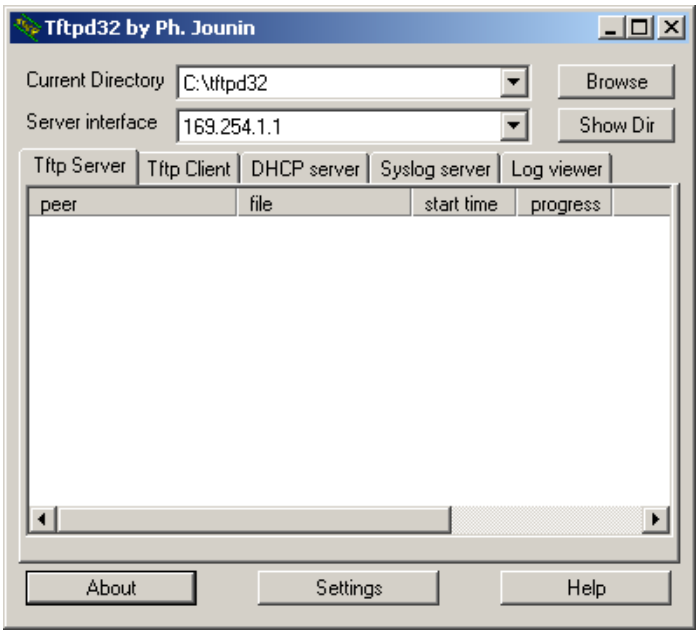
c. start tftpd32

on first start you might get a windows firewall security info:


Windows-Sicherheitswarnung
Der Windows-Firewall hat aus Sicherheitsgründen einige Funktionen dieses Programms geblockt.
Soll dieses Programm weiterhin geblockt werden?
Name: TFTP server
Herausgeber: Ph. Jounin
Weiterhin blocken
Nicht mehr blocken
Erneut nachfragen
Der Windows-Firewall hat die Annahme von Verbindungen aus dem Internet oder einem anderen Netzwerk für dieses Programm geblockt. Sie können die Sperrung aufheben, wenn Sie das Programm kennen oder dem Herausgeber trauen. Wann sollte die Sperrung eines Programms aufgehoben werden?

Just click on "do not block"

e. you will get to the basic tftpd32 screen:



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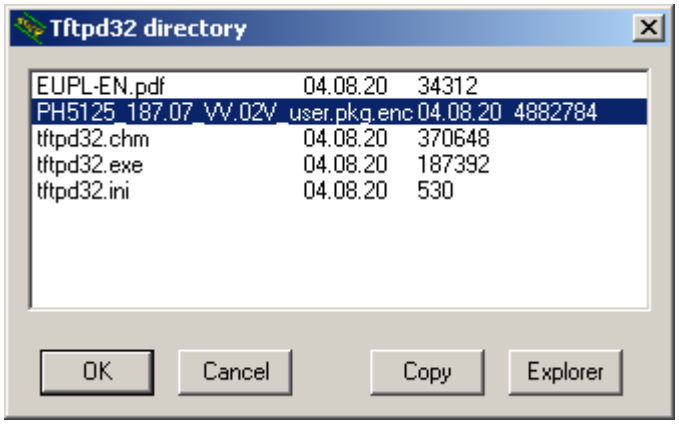
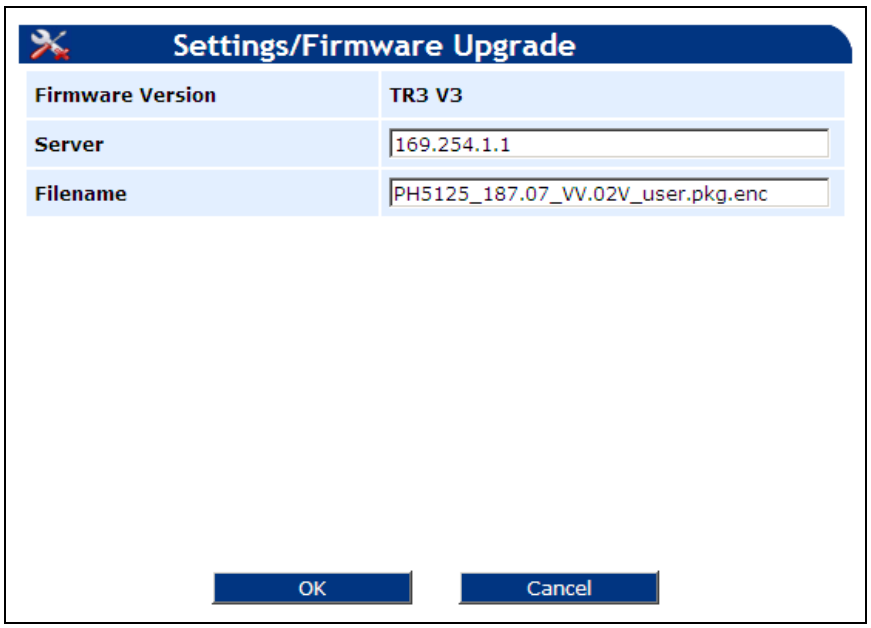
Important: Server interface needs to be 169.254.1.1. This IP appears only after SFL is connected and powered on!

Click on Show dir – mark your firmware and click on copy.



The filename is now in the clipboard.
Close the window with OK

f. start your favourite internet browser and browse to this ip-address: http://169.254.177.194/
g. enter username: *service* and password *service* and you will get this screen:



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Server has to be 169.254.1.1 → this is the server interface ip in the tftpd32 program!

For filename just paste the fw-file name which you have copied above in tftpd32!

And press ok – the update process starts. The device starts blinking. After about 3-4 minutes the device should restart automatically and asks to set the language and date/time.

h. Do not forget to perform a white reference calibration!

7.10.CDC-ECM Ethernet adapter driver problem-work-around

Sometimes it might happen that the connection to the SFL web-interface does not work. When trying to send a Ping to the devices IP-Address 169.254.177.194 it is not reachable.

First I recommend restarting the machine first, if this does not work, please also restart the PC. If this still does not work, follow this guide.

Please open the device manager by clicking with the right mouse button the "My Computer" Symbol" on your desktop and select properties.

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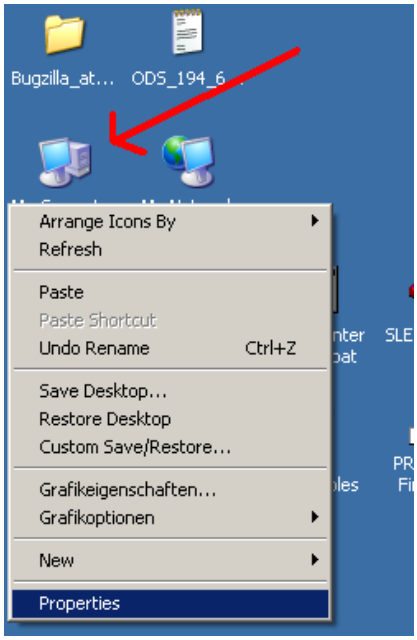
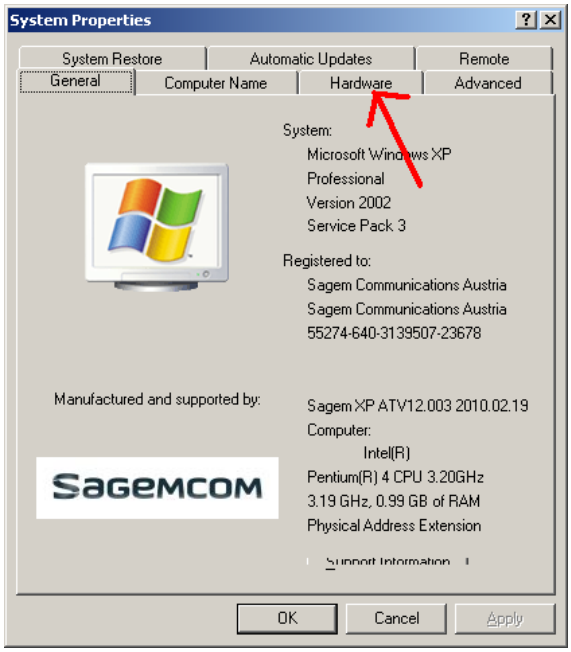
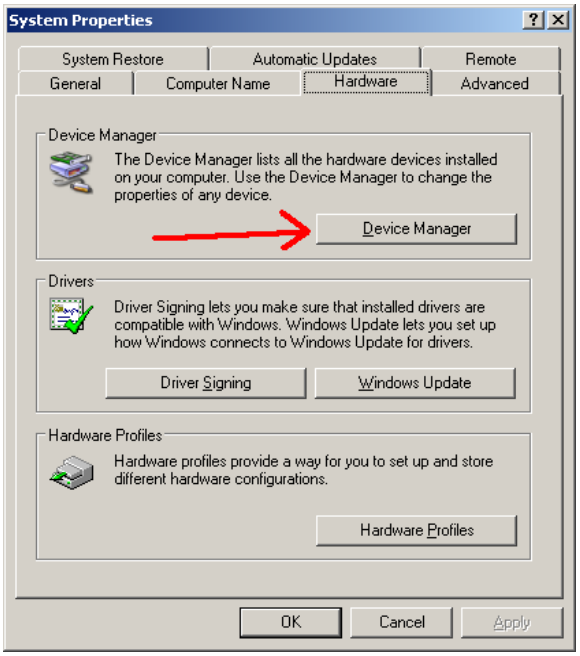


Select „hardware" and click on „device manager"




System Properties
System Restore
Automatic Updates
Remote
General
Computer Name
Hardware
Advanced
Device Manager
The Device Manager lists all the hardware devices installed on your computer. Use the Device Manager to change the properties of any device.
Device Manager
Drivers
Driver Signing lets you make sure that installed drivers are compatible with Windows. Windows Update lets you set up how Windows connects to Windows Update for drivers.
Driver Signing
Windows Update
Hardware Profiles
Hardware profiles provide a way for you to set up and store different hardware configurations.
Hardware Profiles
OK
Cancel
Apply

Under the point network adapters you will find next to the CDC ECM Ethernet Adapter a yellow triangle which indicates an error. Right-click on it and select uninstall.

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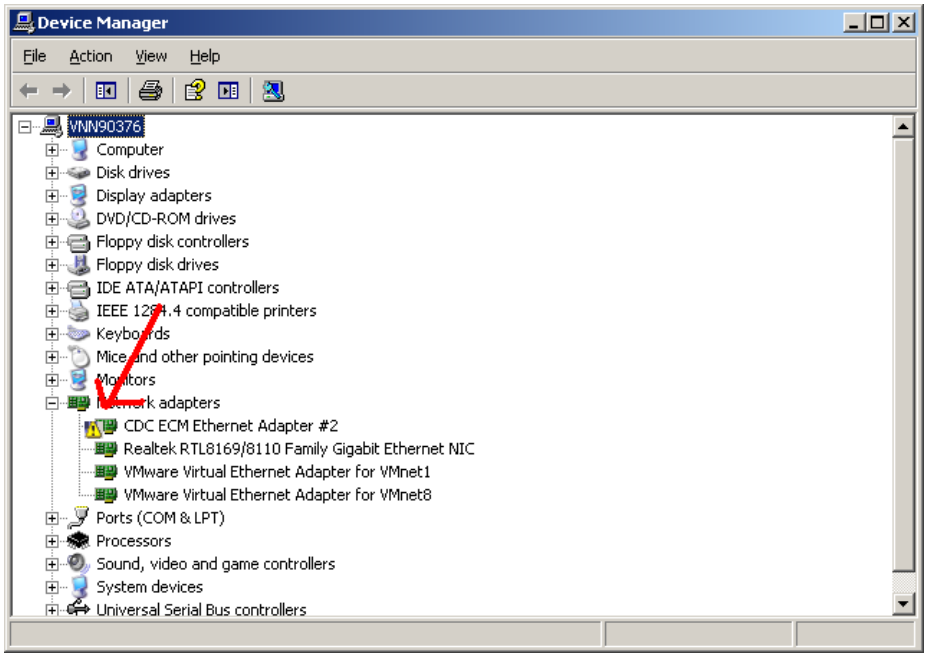
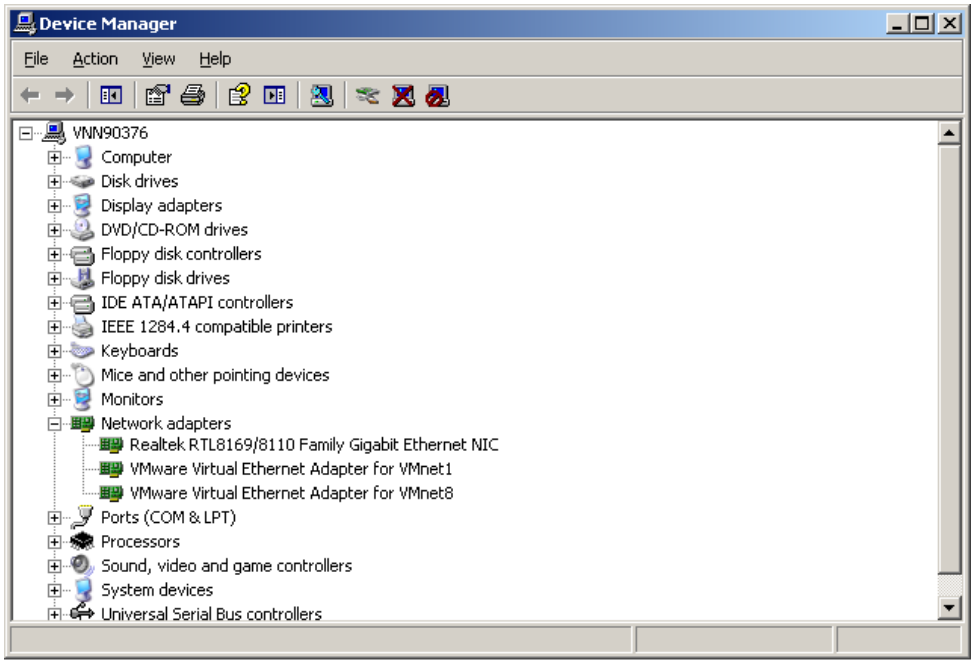


Now the CDC-ECM Ethernet Adapter is removed



Now click in the symbol shown below to search for new hardware.

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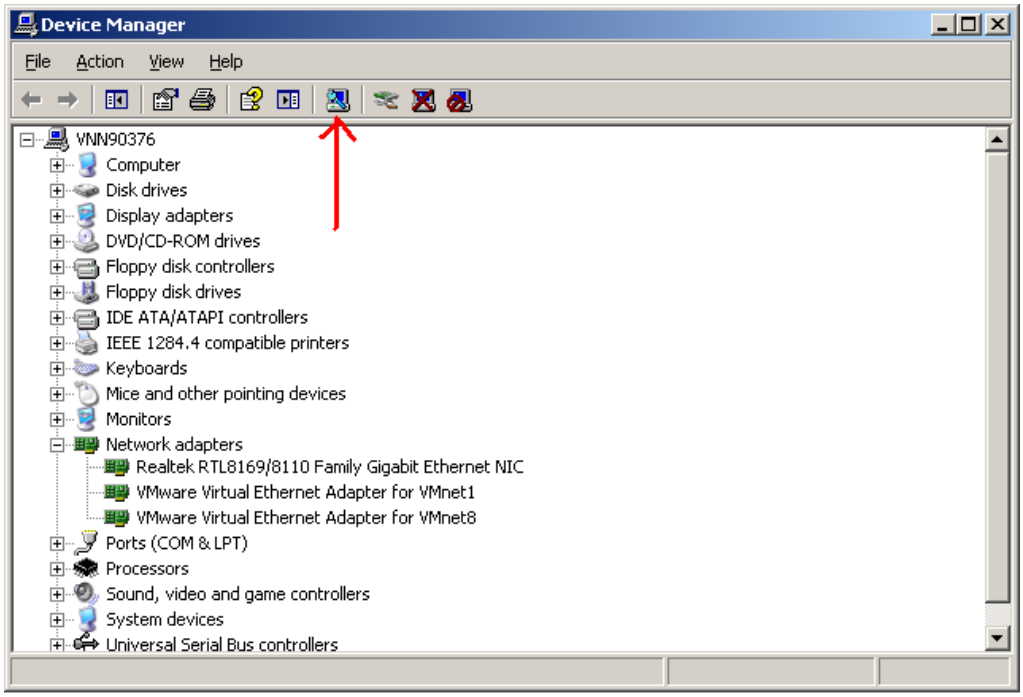
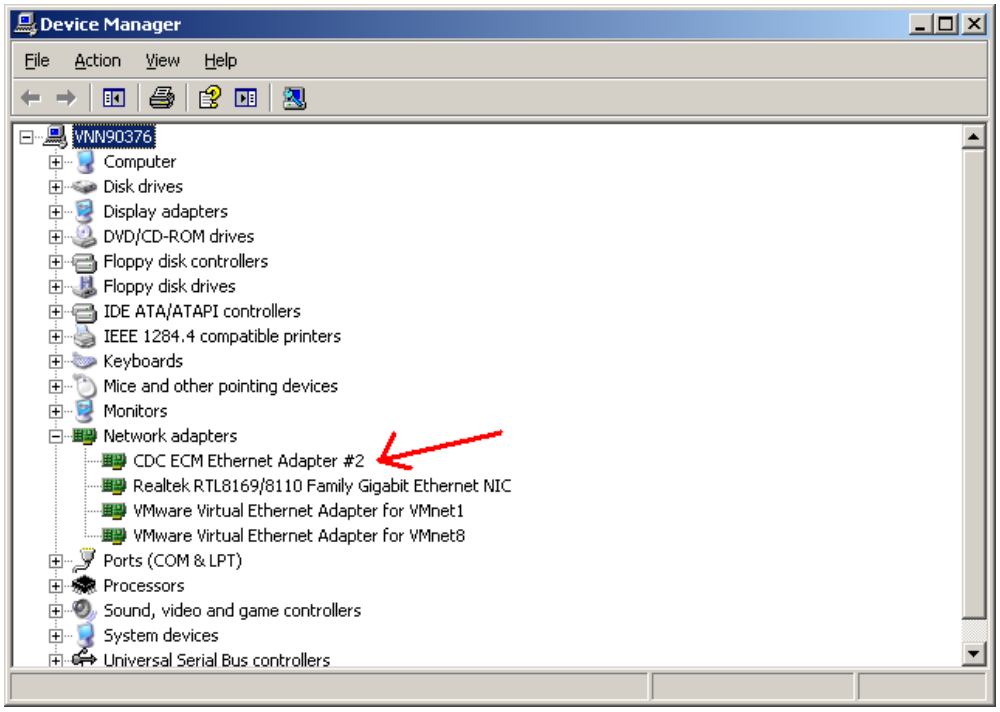


The CDC ECM driver will be found and reinstalled again and will appear again in the device manager list.



If this problem happens very often, i recommend a PC only with Windows XP installed, without any other drivers or software.

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Please report the following information to The manufacturer to find a solution:

- Type/Model of the PC used
- Full view of all devices (collapsed view) in the Device manager
- Operating System used
- Full list of installed Software

7.11. White reference calibration

After every firmware update a white calibration for the scanner is necessary!! If you do not perform a white calibration you will only get black pages while using copy mode!

To perform white reference calibration, go to menu 933 and follow the display messages. Use a clean, white A4 page for the calibration process which you insert to the ADF!

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8. BLACK BOX

The black box is used to store, retrieve and manage statistical data of the device. It stores data like number of power on, number of hours in use, paper jams etc.

8.1. Stored Parameters

Item	***Comment***
number of power on	
number of hours in use	
number of normal yield cartridges	
number of high yield cartridges	
number of manual feed (by-pass)	
total number of printed pages	
total number of duplex printed pages	
total number of black dots printed / 1000	
number of paper jams	
number of pick-up jams	
number of document jams	
number of transmission error	
number of reception error	
number of sent pages	
number of received pages	
number of printed pages from PC or LAN	
number of printed pages from USB-Stick	
number of printed Copy pages	
number of printed Fax pages	
total number of scanned pages	
number of scanned pages to PC or LAN	
number of scanned pages to USB-Stick	
number of scanned Copy pages	

8.2. Automatic Reports

The black box provides approximate weekly, monthly and yearly statistics for a subset of the parameters. A week is defined as 7 days, a month as 4-weeks and a year as 12 four-week months.

Note:
Please note that only the weeks correspond to calendar-weeks, but months and years are shorter. This is because the device does not have a 100% real time clock.

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So only the device up times are counted and used for the statistic and not a full 24hours interval.

Available Reports:

Item	***Comment***
Paper jam	
Pick-up jam	
Document jam	
Total number of simplex printed pages	
Total number of duplex printed pages	
Transmission errors	
Reception errors	
Sent pages	
Received pages	

8.3. Read out the parameters

You can download the black box information by using the "SFX Mains and Service Controller". By default, this feature is locked. You need an authorization for it which can be given to you by your Customer Service Manager.

To manually readout the black box data, please open the web-interface (169.254.177.194) and login with user: *service* and pwd: *service*. Afterwards please open this link and you a download message to download the black box data, will appear.
http://169.254.177.194/cgi/bbx

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Black Box Data Report (sample – via SFx Service Controller)

Black Box Data Report

General Data			
Date	*Time*	*Serial #*	*Model*
28.04.2010	11:17:36	LT08345FD0A0042	SFL

General data - Detail	
Item	*Value*
Production Year	08
Production Day	345
Model	SFL
Mains Power	220V AC
Serial #	0042

Log - Data		
Log #	*Code #*	*Description*
1	c	No Cartridge
2	2	Paper Out
3	2	Paper Out
4	2	Paper Out
5	2	Paper Out
6	2	Paper Out
7	2	Paper Out
8	2	Paper Out
9	4	Paper Jam Print
10	2	Paper Out
11	2	Paper Out
12	2	Paper Out
13	2	Paper Out
14	2	Paper Out
15	2	Paper Out
16	2	Paper Out
17	2	Paper Out
18	2	Paper Out
19	2	Paper Out
20	2	Paper Out

Seite 1

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Black Box Counter Report (sample – via SFx Service Controller)

	BBx_Printed_Visible	BBx_Fax_Send	BBx_Fax_Received	BBx_Scanned_All	BBx_Power_On	BBx_Time_In_Use	BBx_Consumable_Norm	BBx_Consumable_High	BBx_Consumable_Error	BBx_Consumable_Strange	BBx_Manual_Feed	BBx_Printed_All
Current value	3585	423	1469	389	71	4387	1	0	2	0	0	3585
Current week		0	6									13
1 week ago		57	142									282
2 week ago		68	176									366
3 week ago		10	137									206
Last month		117	562									1075
2 month ago		186	428									1201
3 month ago		63	331									1014
4 month ago		0	0									0
5 month ago		0	0									0
6 month ago		0	0									0
7 month ago		0	0									0
8 month ago		0	0									0
9 month ago		0	0									0
10 month ago		0	0									0
11 month ago		0	0									0
12 month ago		0	0									0
Last year		0	0									0
2 years ago		0	0									0
3 years ago		0	0									0
4 years ago		0	0									0
5 years ago		0	0									0

BBx_Printed_PC	BBx_Printed_Copy	BBx_Printed_Fax	BBx_Printed_USB	BBx_Printed_Duplex	BBx_Dots_1000	BBx_Jam_Paper	BBx_Jam_PickUp	BBx_Jam_Doc	BBx_Scanned_PC	BBx_Scanned_Copy	BBx_Scanned_USB	BBx_Error_Transmission	BBx_Error_Reception	BBx_Drum_Rotation
1830	21	1446	0	0	13276874	2	0	0	26	18	0	103	18	0
				0		0	0	0				0	0	
				0		0	0	0				5	0	
				0		0	0	0				23	1	
				0		0	0	0				4	2	
				0		1	0	0				33	5	
				0		0	0	0				36	2	
				0		1	0	0				29	11	
				0		0	0	0				0	0	
				0		0	0	0				0	0	
				0		0	0	0				0	0	
				0		0	0	0				0	0	
				0		0	0	0				0	0	
				0		0	0	0				0	0	
				0		0	0	0				0	0	
				0		0	0	0				0	0	
				0		0	0	0				0	0	
				0		0	0	0				0	0	
				0		0	0	0				0	0	
				0		0	0	0				0	0	
				0		0	0	0				0	0	
				0		0	0	0				0	0	
				0		0	0	0				0	0	
				0		0	0	0				0	0	
				0		0	0	0				0	0	
				0		0	0	0				0	0	

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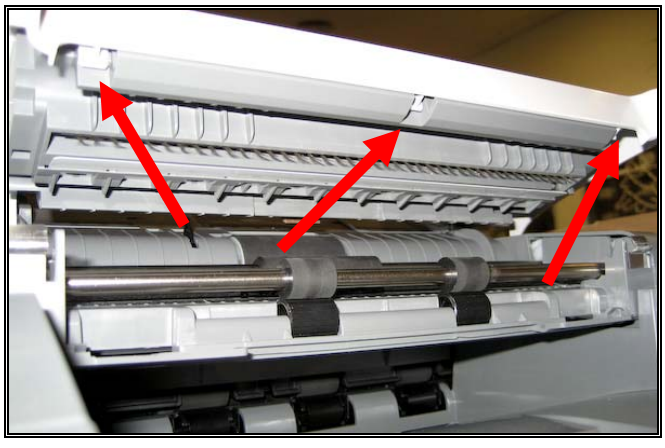
9. DISASSEMBLY

- Unplug power, USB and LAN cable
- Remove the paper cassette, all trays and the corded phone (unplug on the rear)
- Open the LED flap cover and remove the cartridge

9.1. Housing

Remove panel

1.) Open panel
2.) Release 3 snaps on the front and pull the panel to the top/rear



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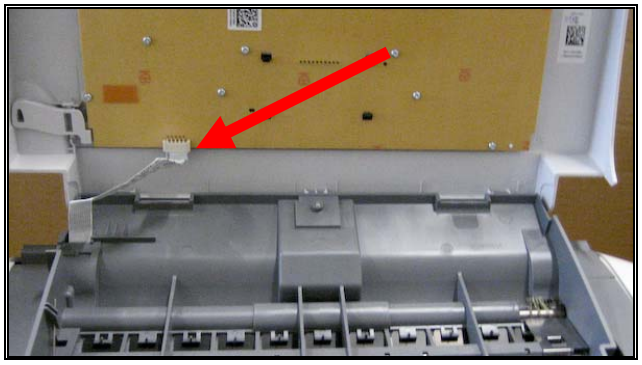
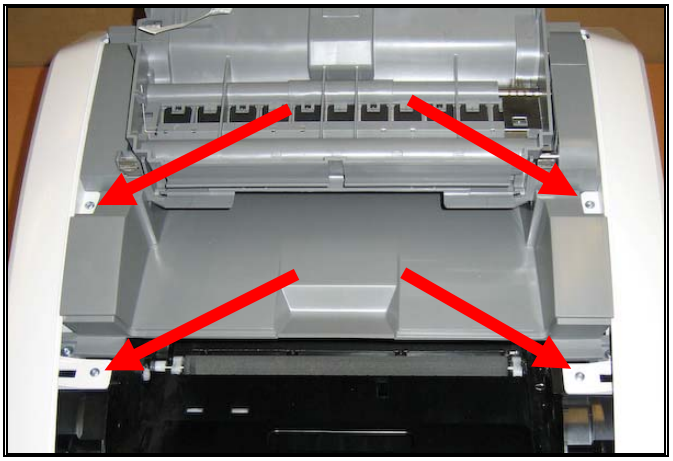
3.) Unplug the MAB-OPU cable

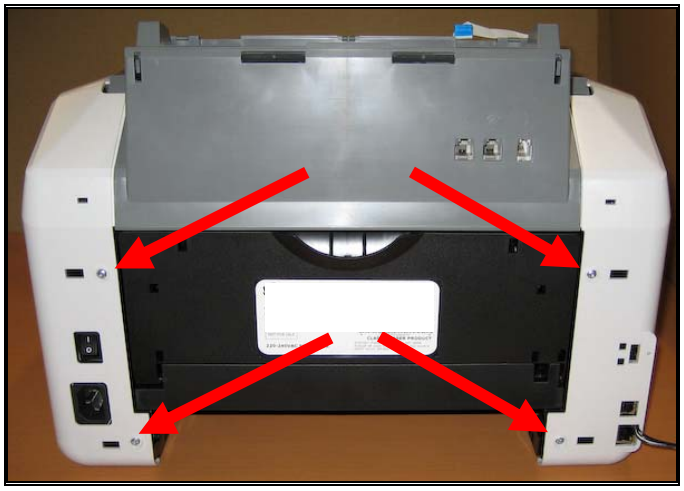


Left and right side cover

1.) Remove 4 screws on the top (The screws have a bigger head!)



2.) Remove 4 screws on the rear



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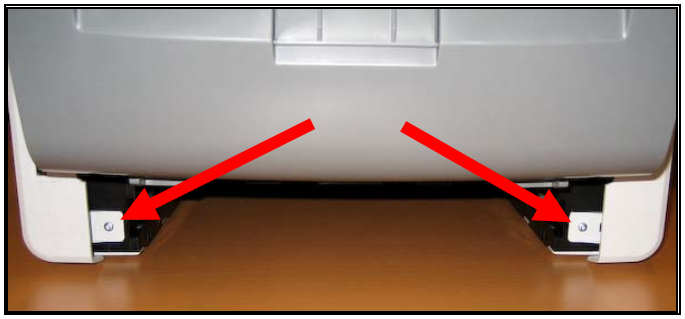
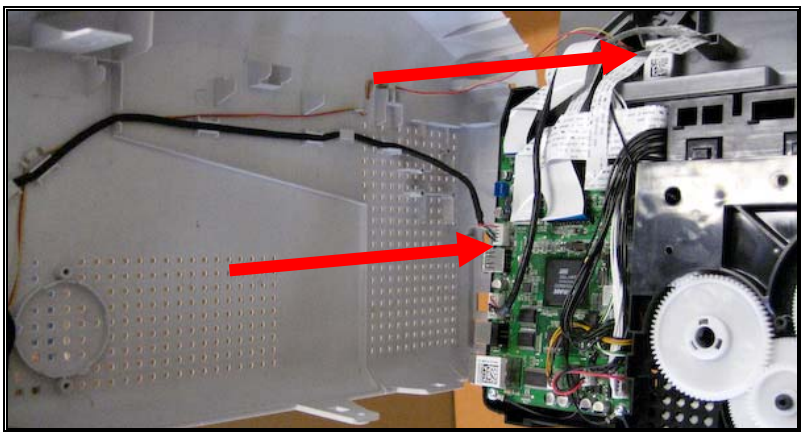
3.) Remove 2 screws on the front (under paper cassette cover)



4.) Remove side cover (left and right side)

a. The whole housing parts are clipped with snaps (front side, top side, bottom side)
b. Use a screwdriver (or jig?) to lever the snaps and hold them in position
c. Remove the housing part from the top to the back side

5.) Unplug the speaker/buzzer and the front USB connector (only on left side cover)



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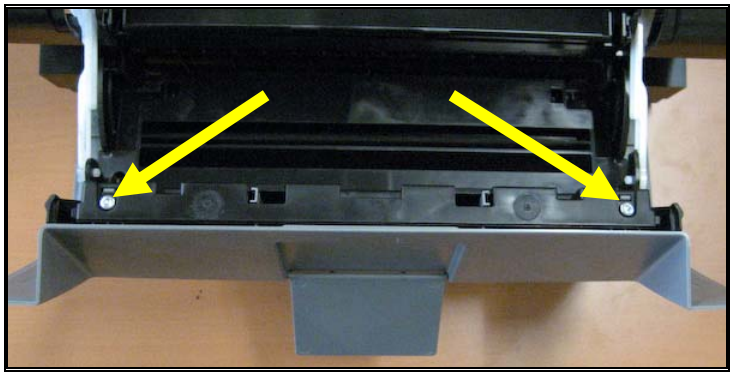
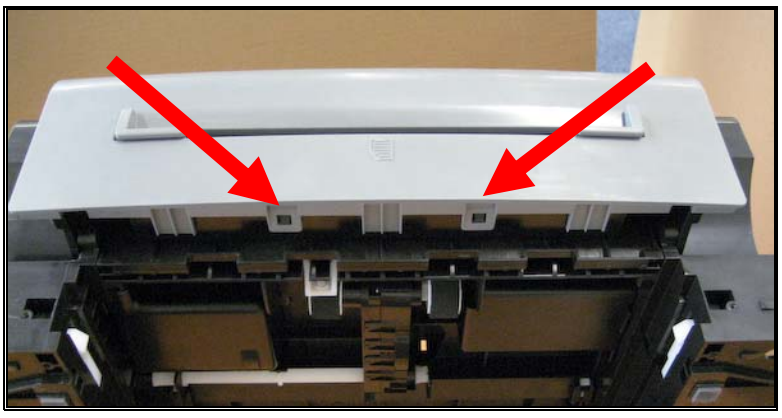
Remove Cover LED Flap bar

- Open Cover LED Flap bar and remove 2 screws



- Press the 2 snaps (1 on the left and 1 right side) at the side and 2 snaps on the bottom to release the cover



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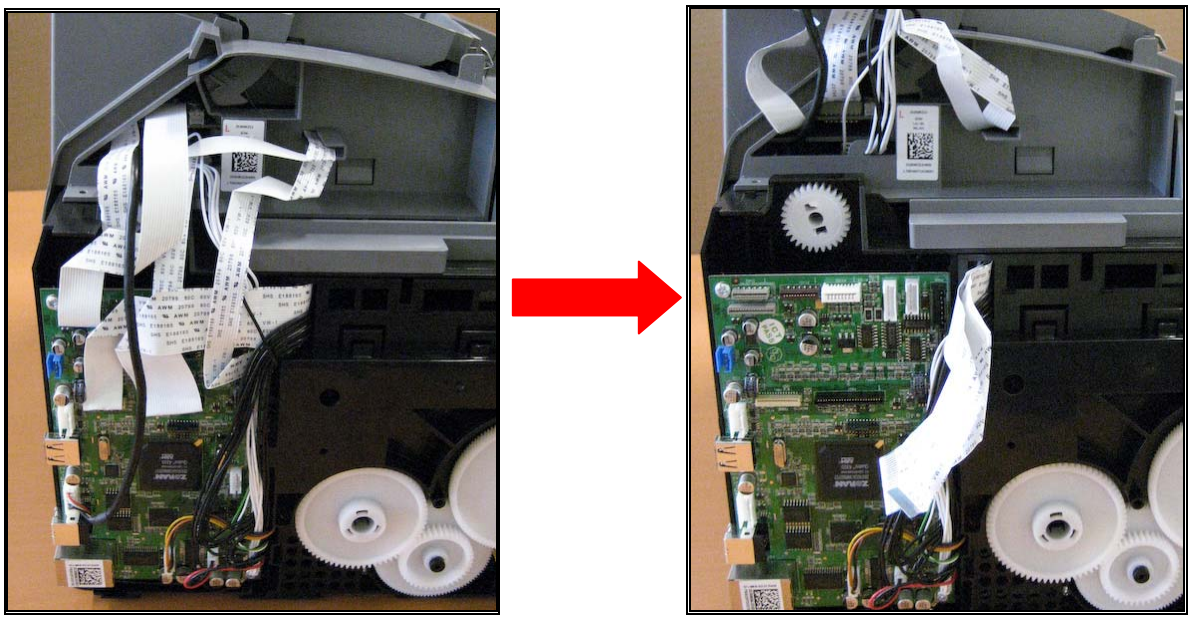
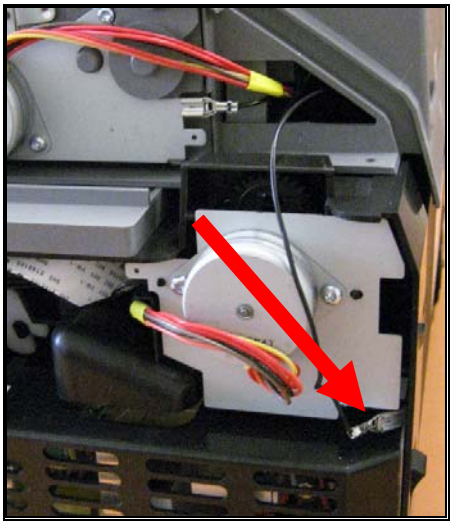
Remove automatic document feeder assy (ADF)

1.) Remove all ADF cables from the MAB (left side) and unplug the ground cable on the right side





2.) Remove 2 screws on the top and lift the ADF to the front top to release

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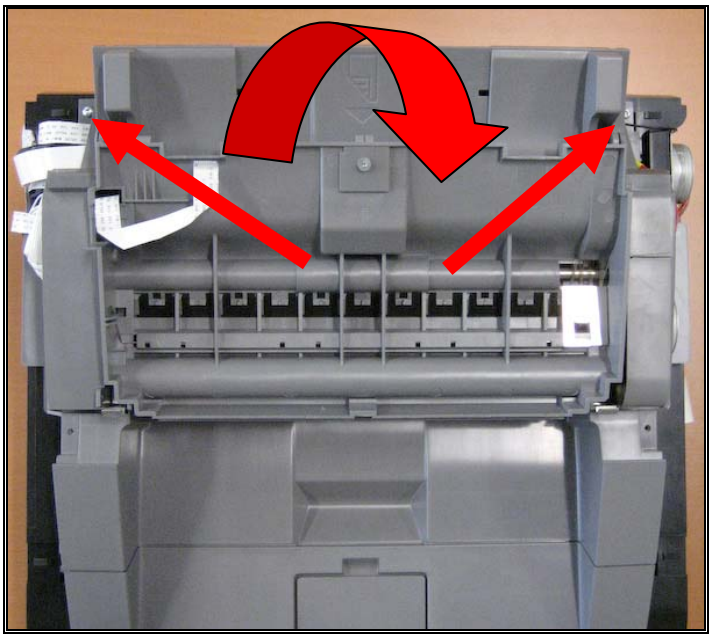
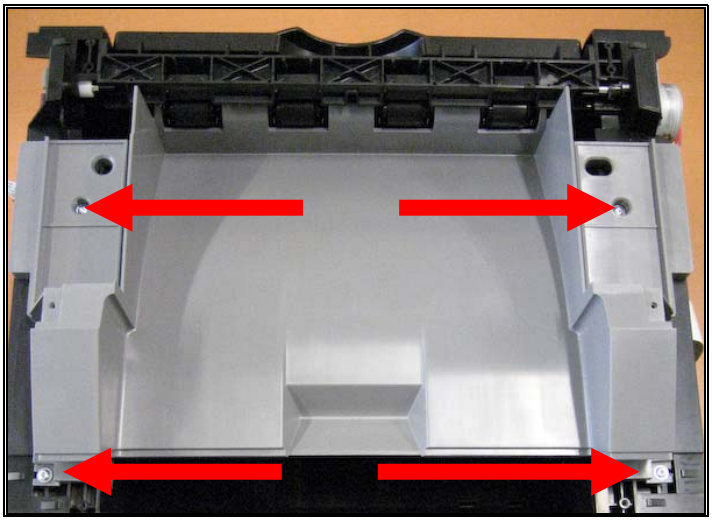


Remove paper out cover

1.) Remove 4 screws (the screws do have a bigger head)

2.) Lift of the cover



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9.2. Right side

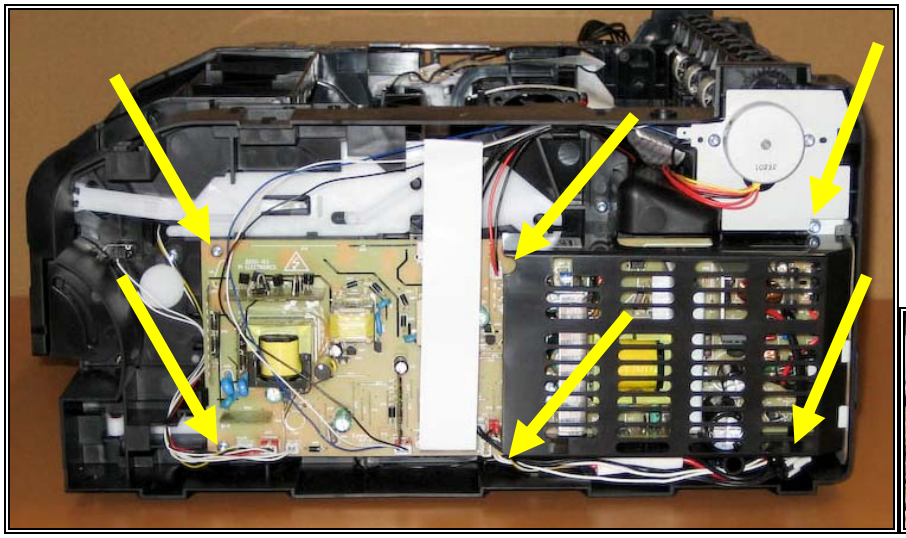
Requirements:

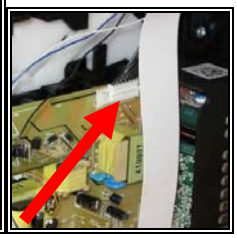
- Right and top housing is disassembled

Power supply

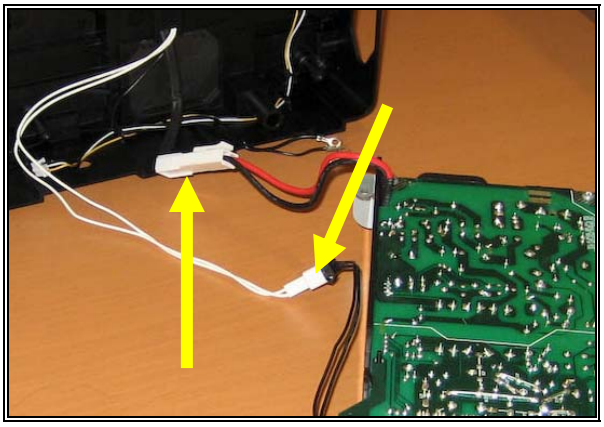
1.) Unplug all cables from PSU and remove 6 screws
For reassembling: The cable colours are marked on the PSU!

2.) Right photo - Power cable (PSU-MAB):Take care of the position of this cable (2 pins on the left side have to be free)





3.) Snap out the PSU and unplug the 2 cables



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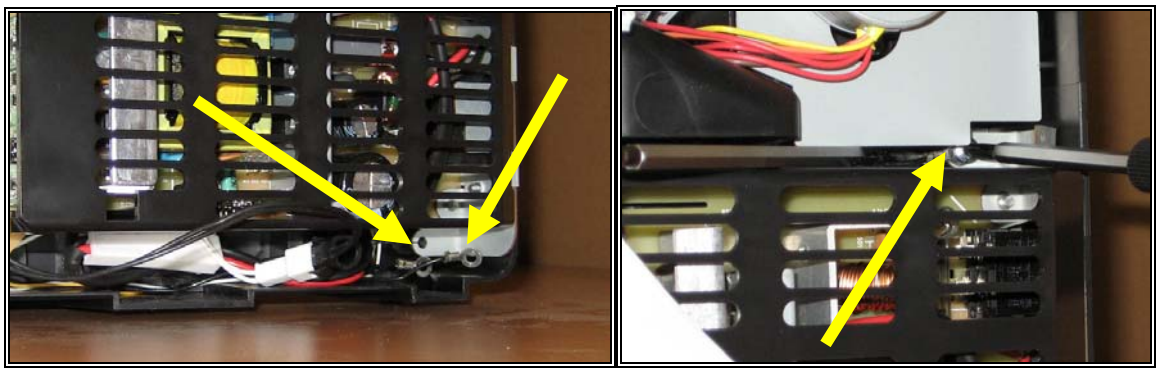
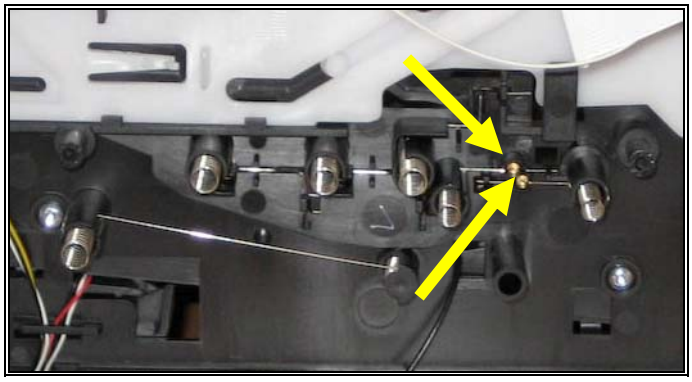
4.) For reassembling: Do not forget to screw the ground cables!!



5.) For reassembling: Take care of the springs and the 2 small cartridge contacts (these are held by the springs)



Doorswitch front

1.) Open cover led bar
2.) Remove screw and unplug cable from PSU

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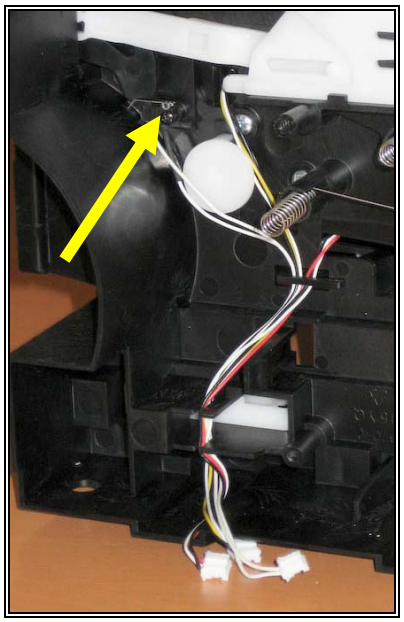
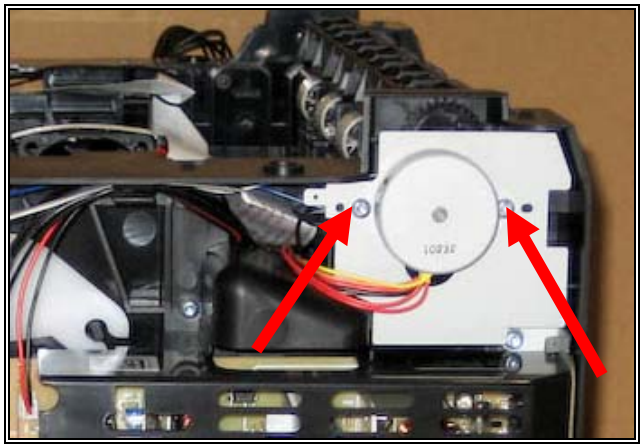


Duplex motor (only on duplex machines)

1.) Plug out extension cable
2.) Remove 2 screws



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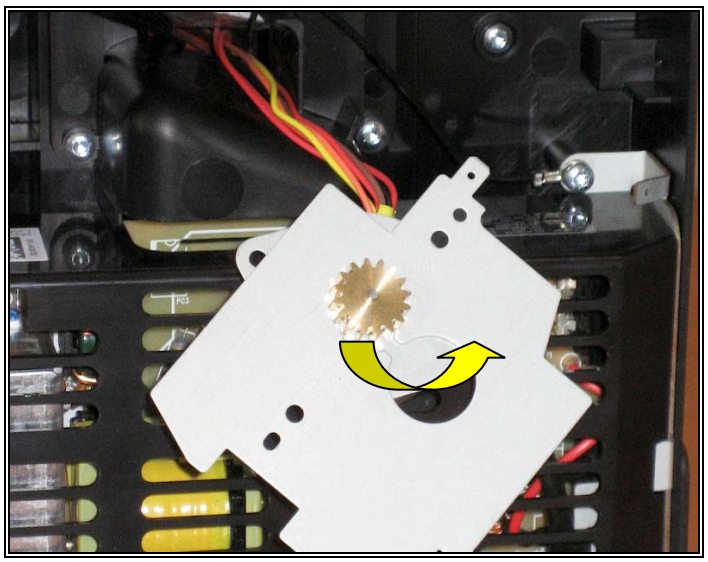
3.) Hang out the motor (gear) from the heat sink plate

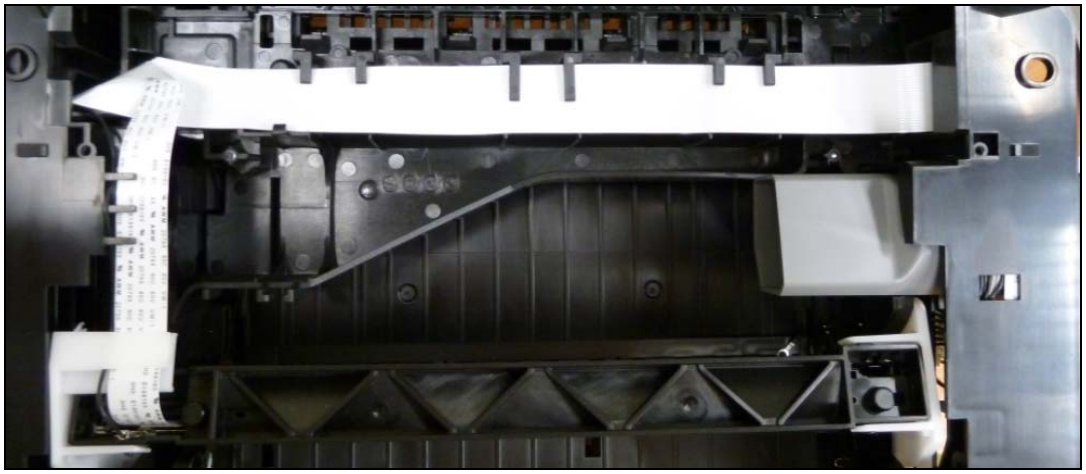


9.3. Top Side

Requirements:

- Housing top is disassembled

Fan 50x50mm (new thermal concept)



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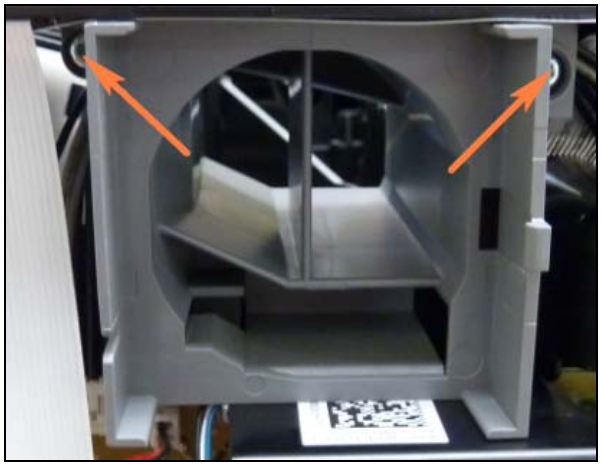
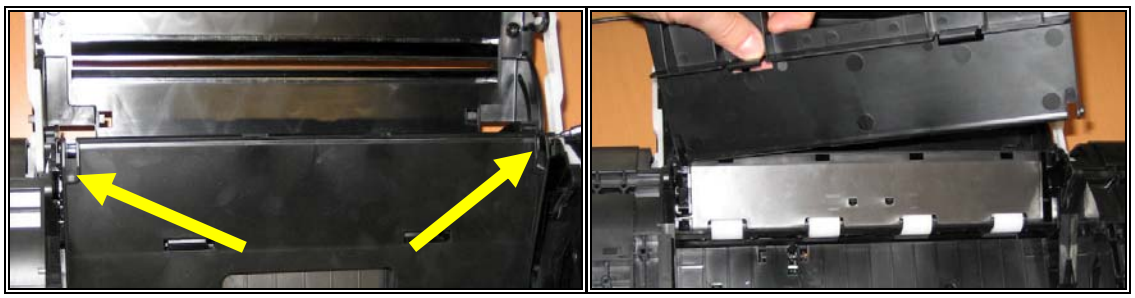
1.) Remove the Fan by pushing it out with a screwdriver

2.) To remove the airguide remove 2 screws and pull it out gently (take care on the cables on the top!)



Cover bracket roller

1.) Open cover LED flap
2.) Hang out one side of the cover bracket roller using a screwdriver



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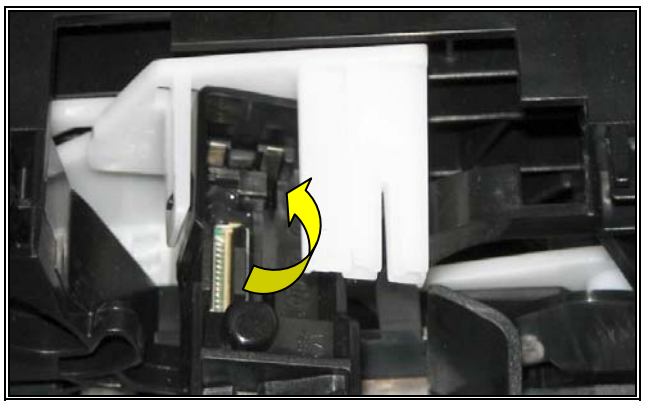
LED bar assy

1.) Open cover LED flap

2.) Unplug the FFC and ground cable from LED bar

3.) To unplug the FFC cable, first open die closing flap with a screwdriver
For reassembling: first open the closing flap as well, before plugging in the FFC cable and take care that you do not unplug the cable again!



4.) Clip out all 4 snaps

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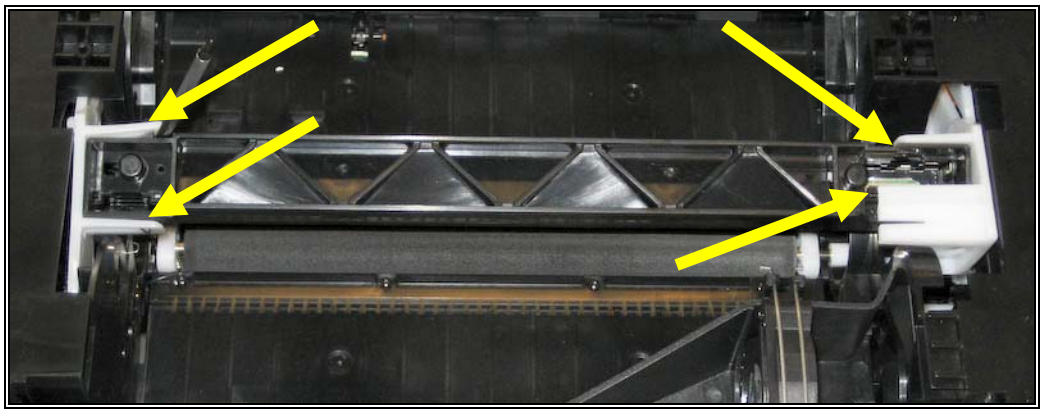
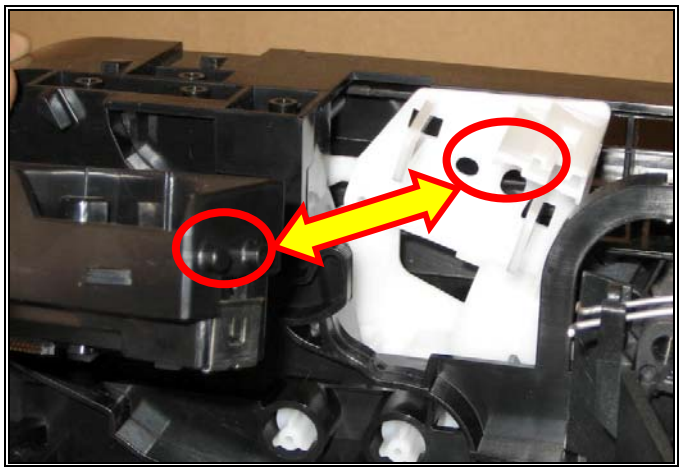


5.) Remove the LED bar fist on the right side
6.) For Reassembling: Take care that the 2 pins have to fit into 2 holes in the white hinges (left+right)



Duplex tube and duplex tube roller (Only on duplex-machines)

1.) remove paper cassette
2.) click out the duplex tube

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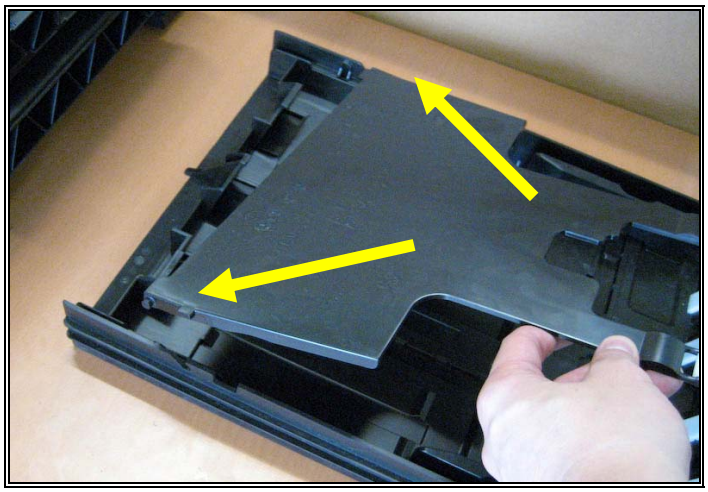

3.) click out the dulex tube roller

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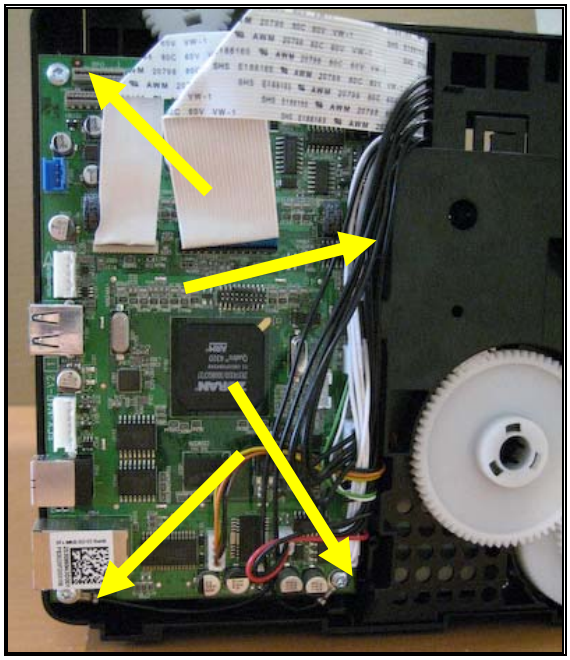
9.4. Left side

Requirements:

- Housing left and top

PCB MAB

1.) Unplug all cables and remove 4 screws



2.) For reassembling do not forget the 2 ground cables!!

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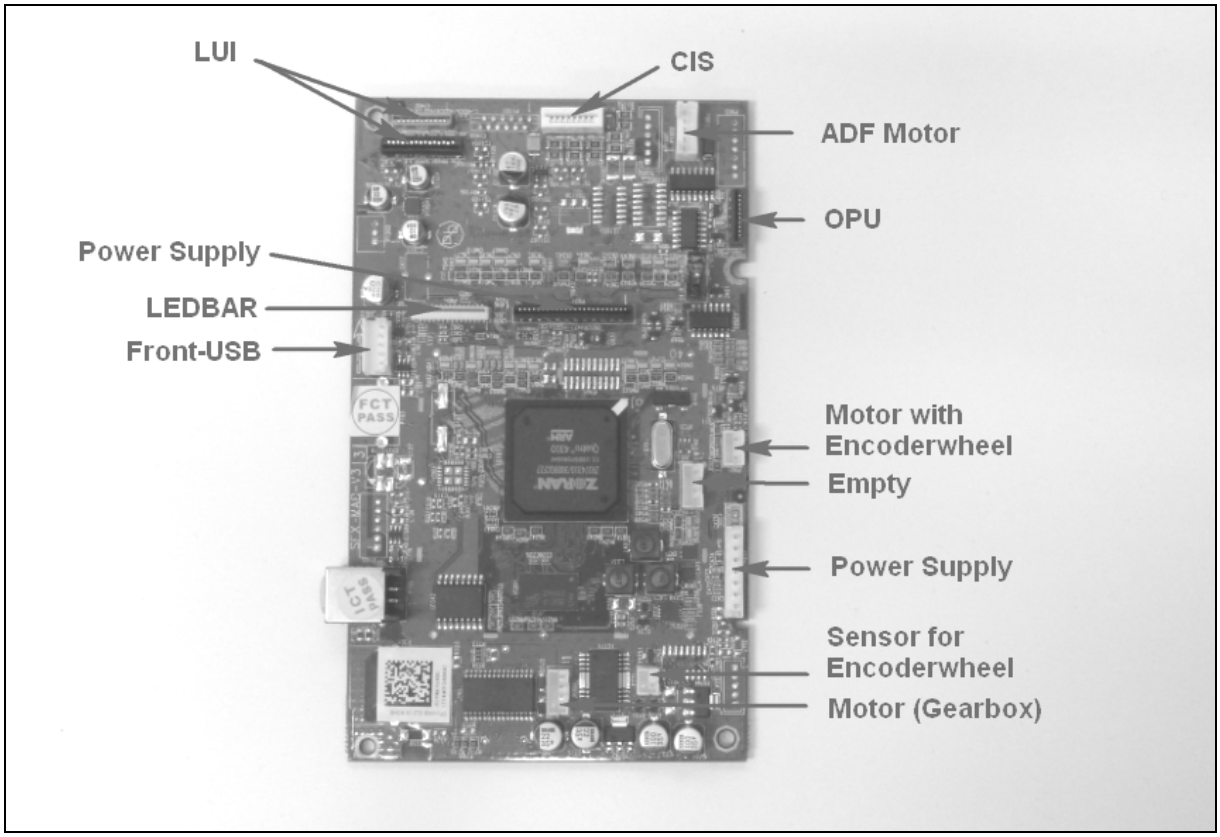
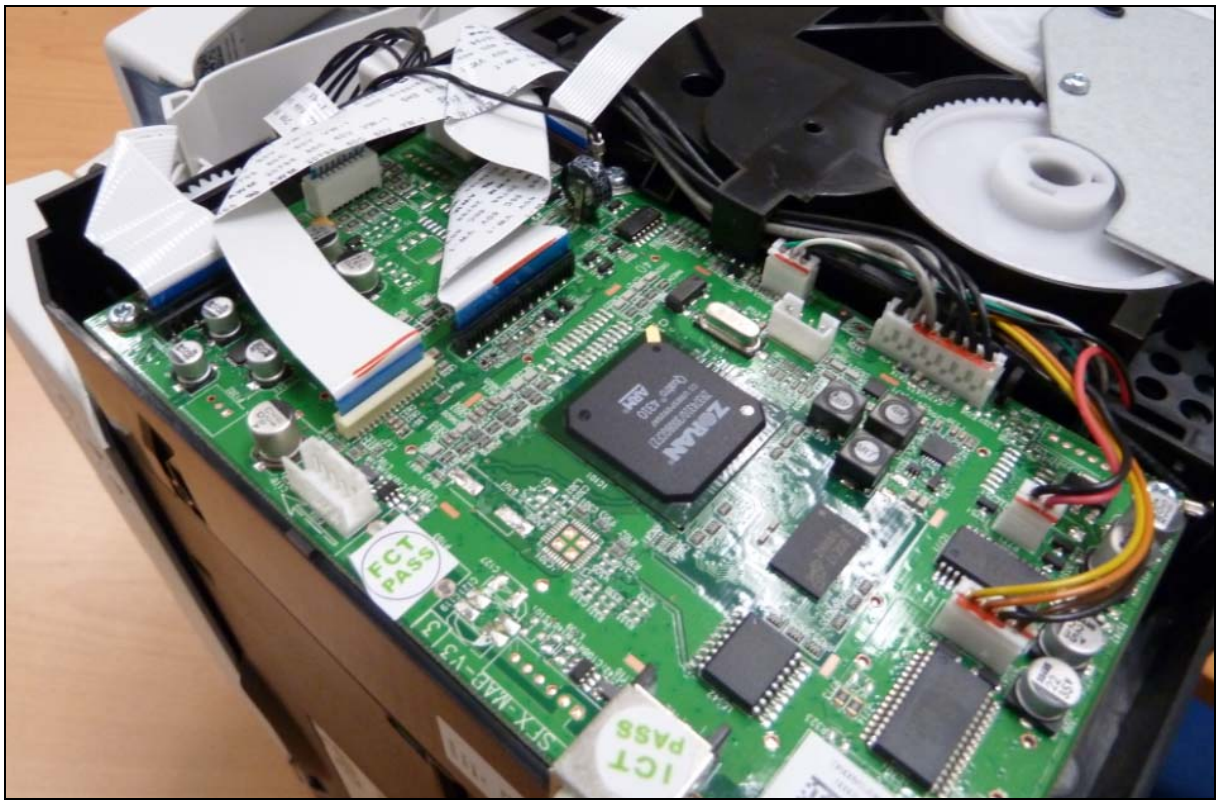
3.) Mainboard Connectors



4.) MAB Cable guiding



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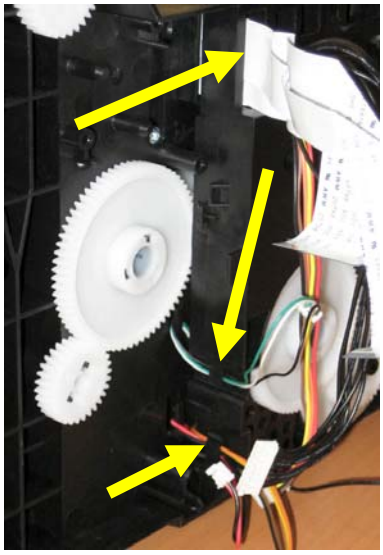
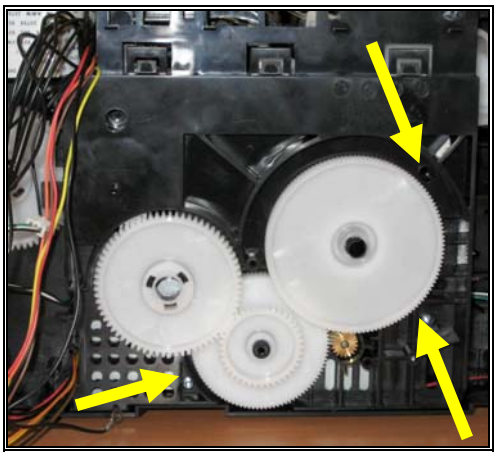
Gearbox

1.) Remove PSBa-MAB

For reassembly: Hang in the cables into the 3 mounting jigs



2.) Remove 4 screws



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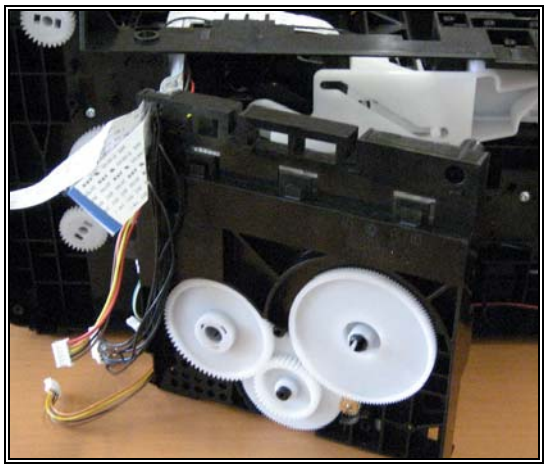
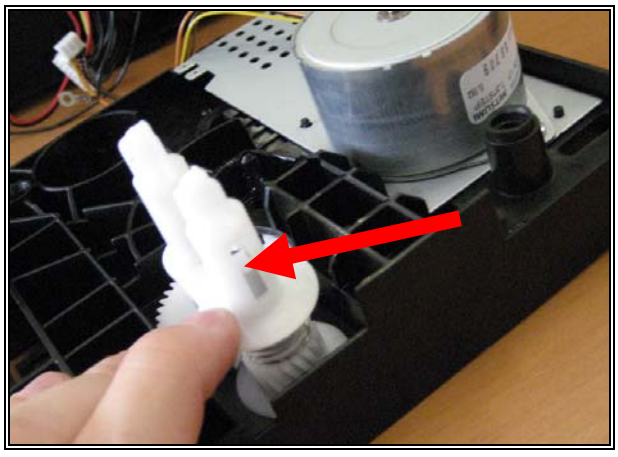
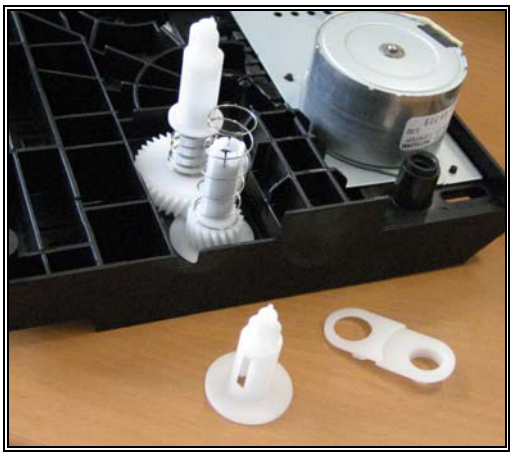
3.) Pull gearbox out



Gearbox parts – clutch and lock

1.) Remove gearbox
2.) Pull down the OPC roller and press the 2 snaps to release the roller and the OPC lock





3.) Press down the clutch OPC roller and press the 2 snaps to release it

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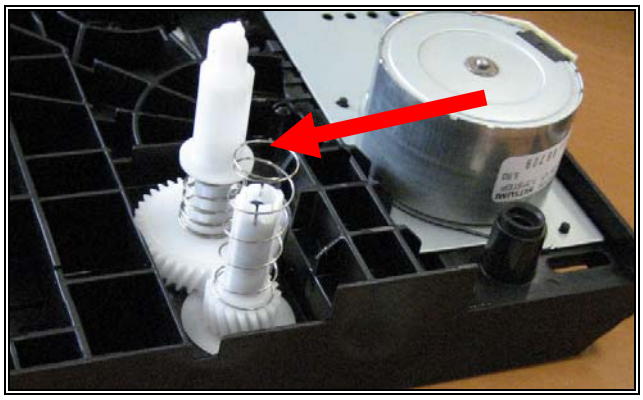
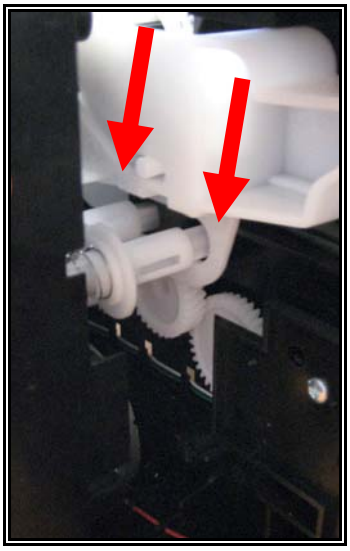


4.) Remove the springs

For reassembly: Take care that the roller fits into the 2 holes



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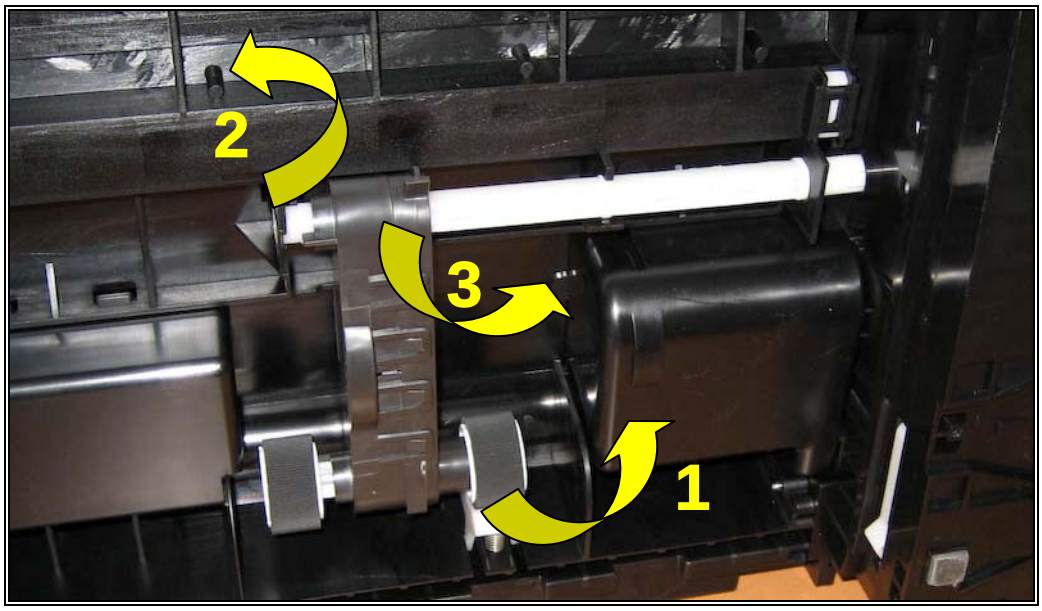
9.5. Bottom side

Requirements:

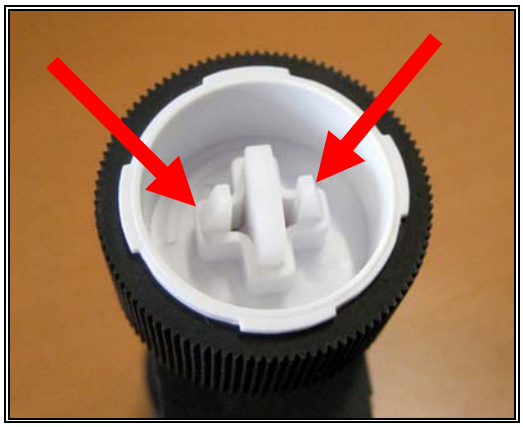
- Paper cassette removed

Pickup assy and pickup roller

1.) Release the pickup assy and hang it out



2.) Press the 2 snaps to release the pickup roller



3.) For reassembly: take care that the nose is on the right side and the roller fits into the gear on the right side

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Motor pick up

Requirements:

- Housing top and left disassembled
- PCB-MAB removed
- Gearbox removed

Pickup motor, Encoder wheel, Sensor Encoder (PSBa S1)

1.) remove cover pick up motor on the bottom – secured with 4 snaps

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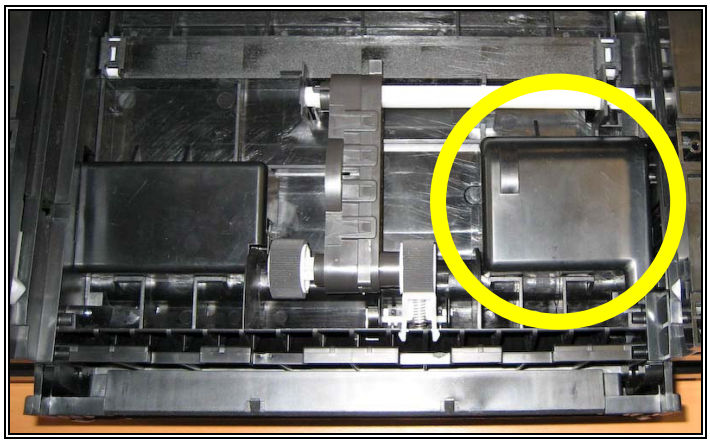
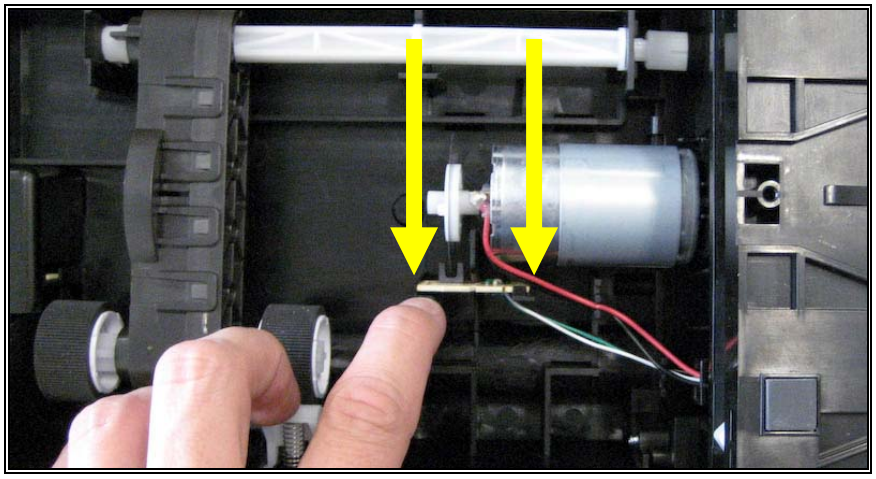
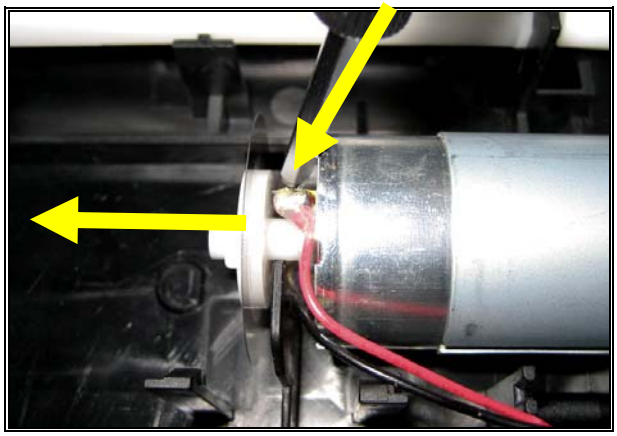


2.) Clip out PCBa S1 Encoder and plug out the cable on the MAB



3.) Remove Encoder wheel by using a screwdriver

For reassembling: Take care the encoder wheel is free and positioned within the sensor!



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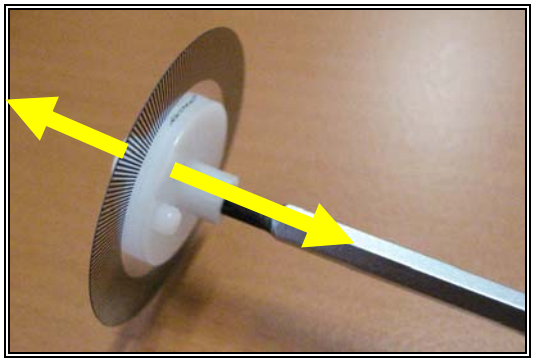
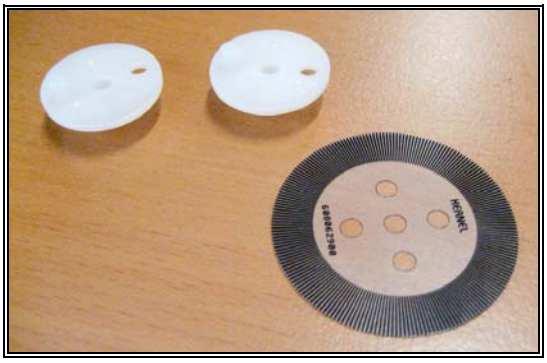
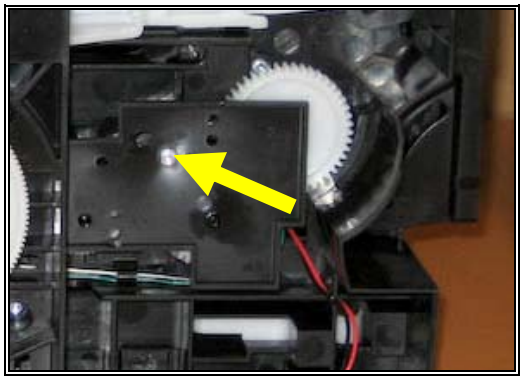
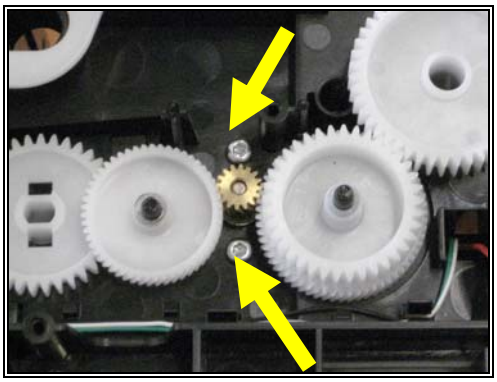
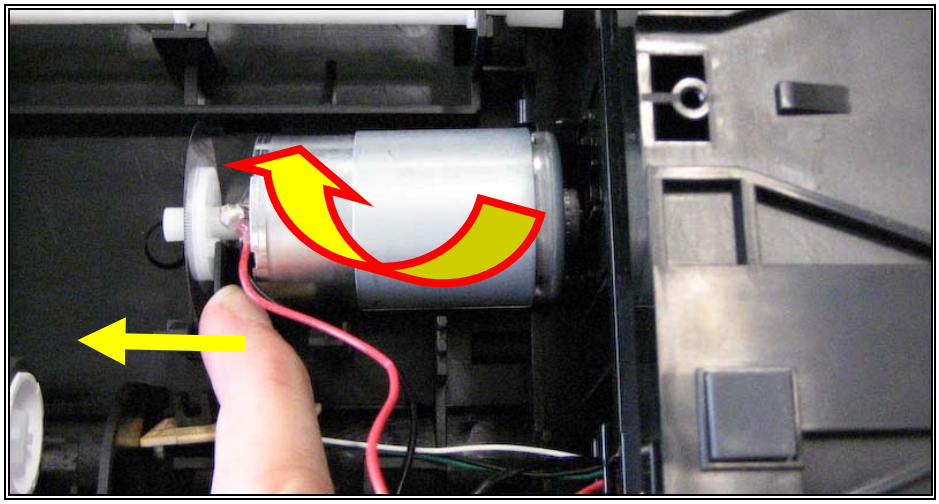
4.) Take apart the white hinges and replace encoder wheel (do not bend the encoder wheel!)

5.) Remove the "support plate gears" (below the left housing) and the 2 screws below for the pickup motor

6.) Press the lever and release the pickup motor



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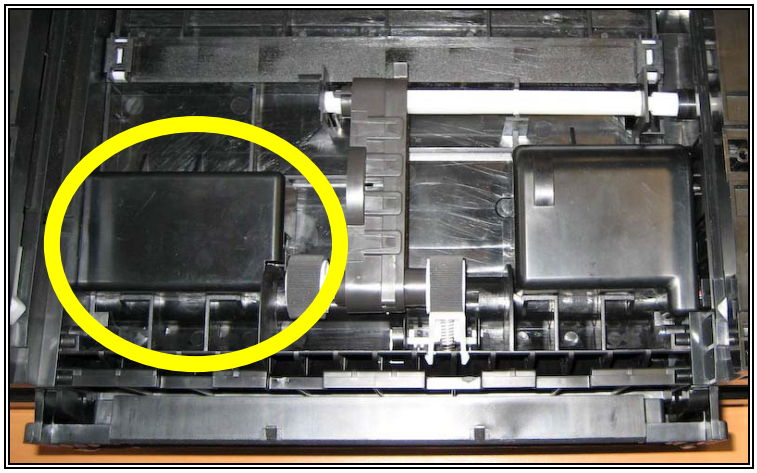
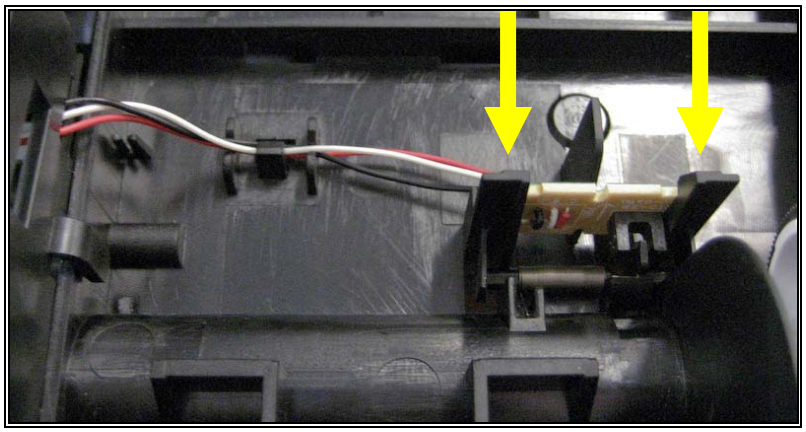
Sensor paper in (PCBa S3)

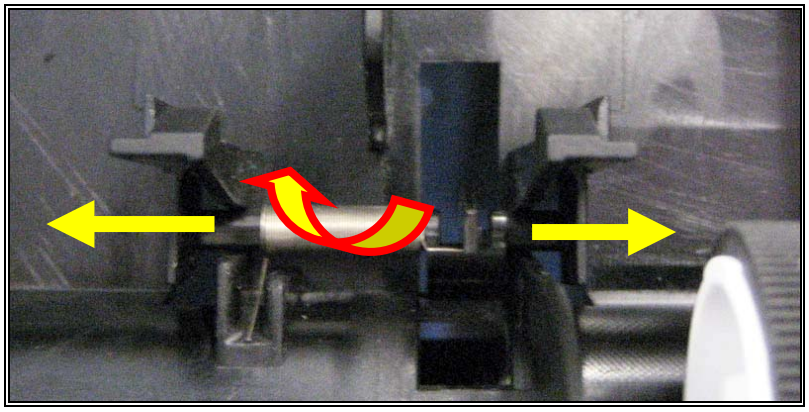
1.) remove cover



2.) Clip out PCBa S3 paper in and plug out the cable on the PSU



3.) clip out sensor lever with spring



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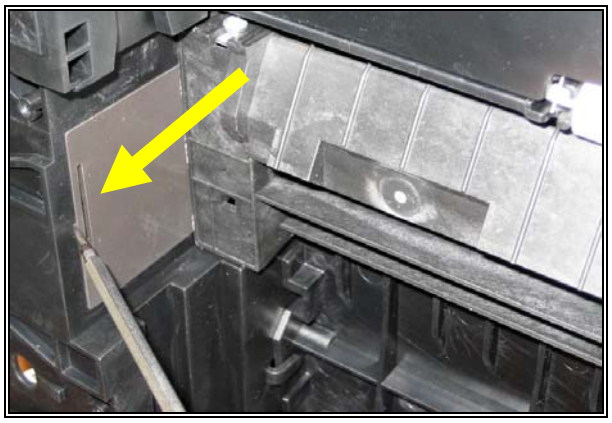
Sensor manual paper feed (PCBa S4)

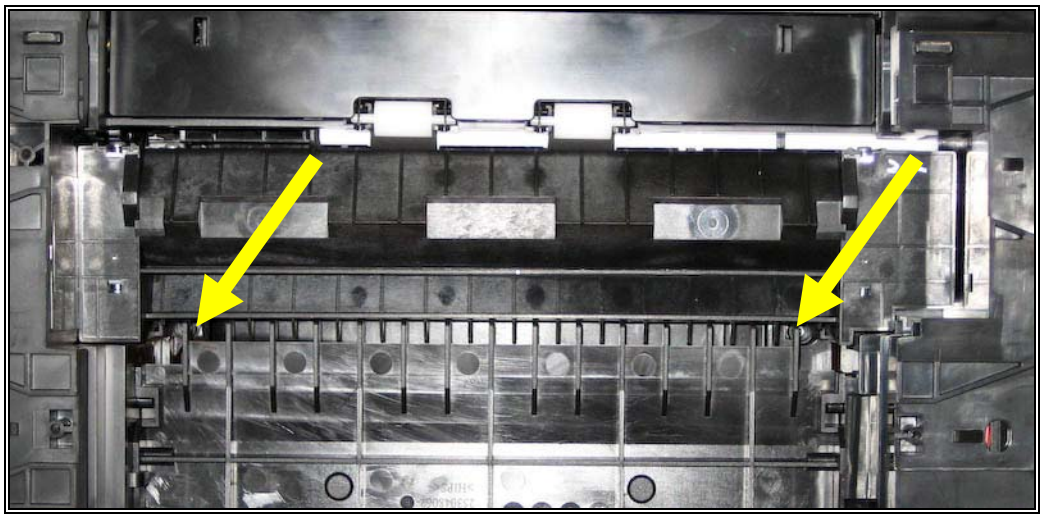
1.) open flap LED bar
2.) Lever out the cover – carefully
3.) Clip out the PCBa S4 and remove cable from PSU

Fuser

1.) remove "door fuser connector" using a screwdriver



2.) remove 2 screws on the bottom



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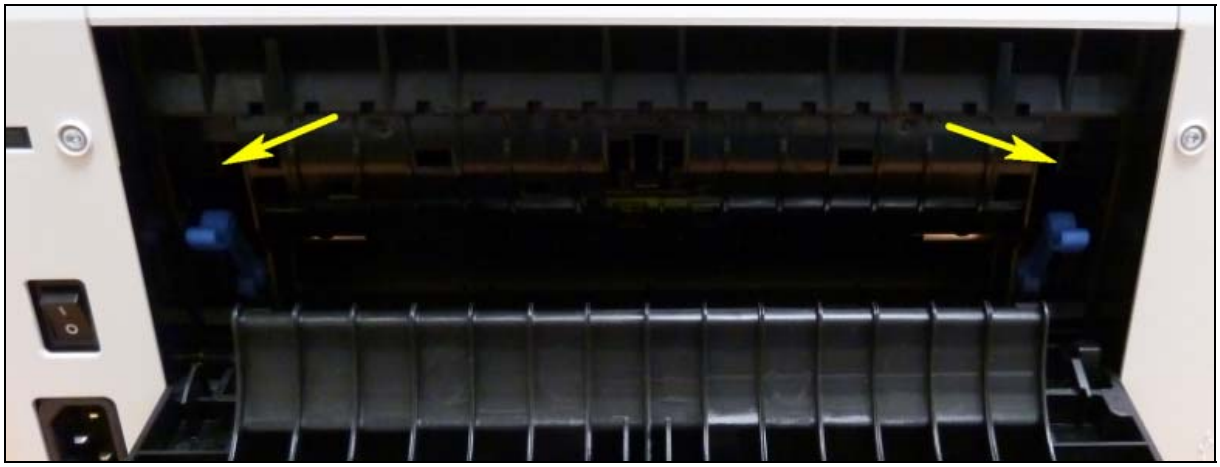
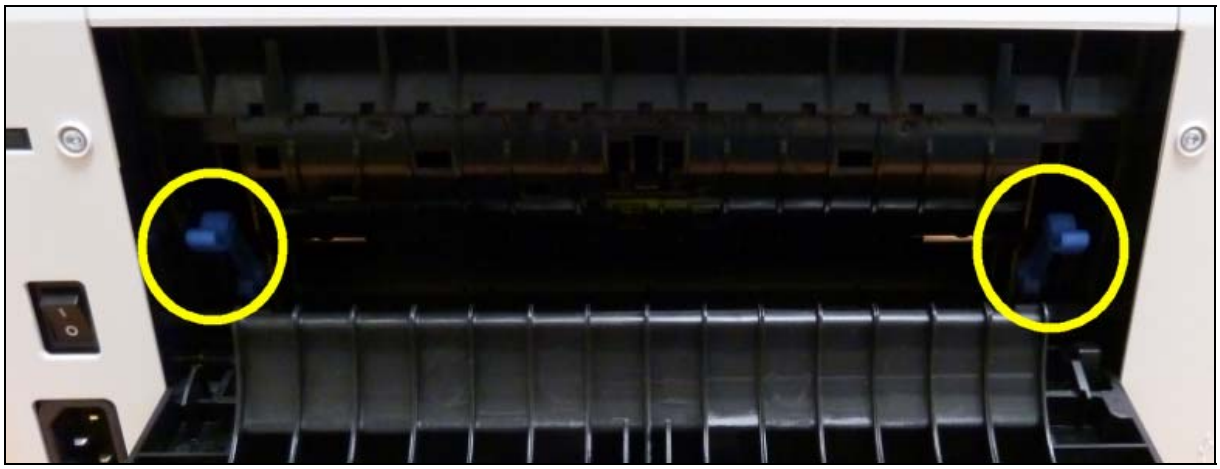
3.) Open the "door rear duplex" and remove 2 screws



4.) Press the 2 fuser lever (blue colour) and the fuser should move a bit to the bottom



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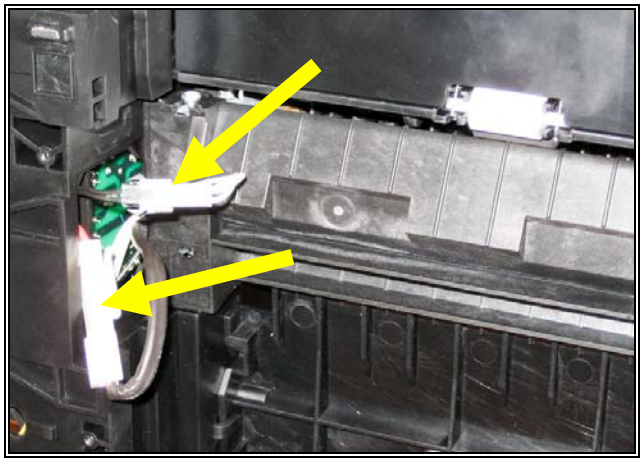
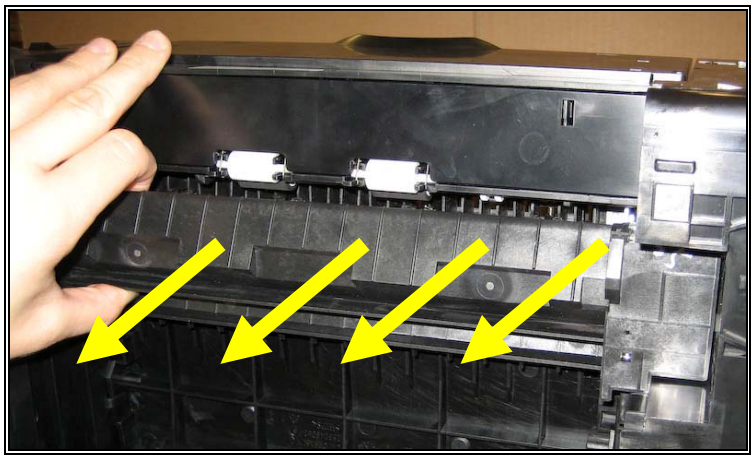
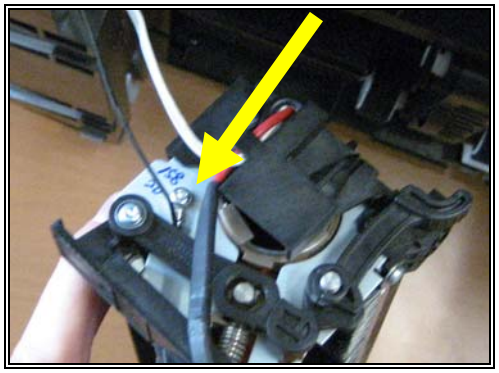
5.) pull out the 2 cables and unplug the connectors



6.) Pull the fuser out – that needs a bit of force



7.) Remove the screw of the ground cable



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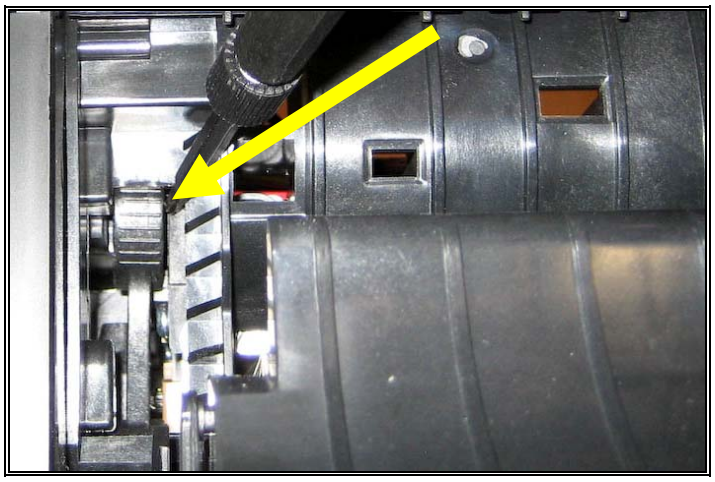
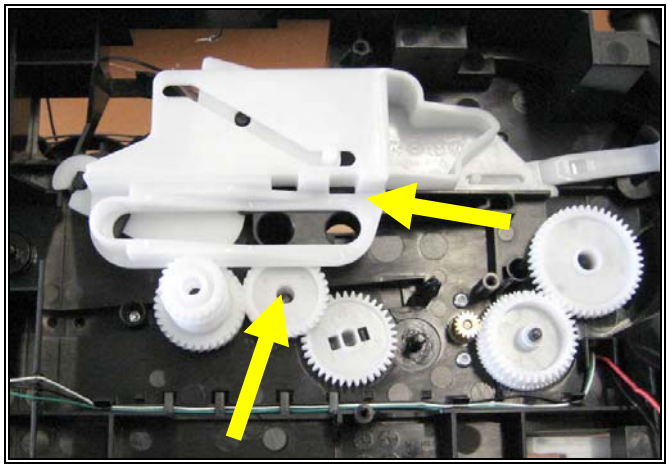
8.) For reassembly: Take care that the fuser lever left+right (blue) do not stuck behind the housing! In case of: use a screwdriver to release it before you screw the fuser



Transfer roller

1.) Remove gearbox
2.) Clip out the hinge and remove the gear



3.) Press the snaps and push the transfer roller (incl. bearings) out

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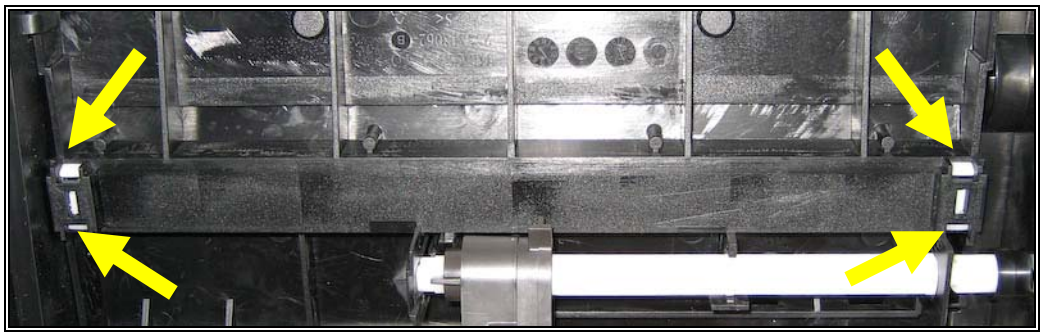

4.) Remove bearings

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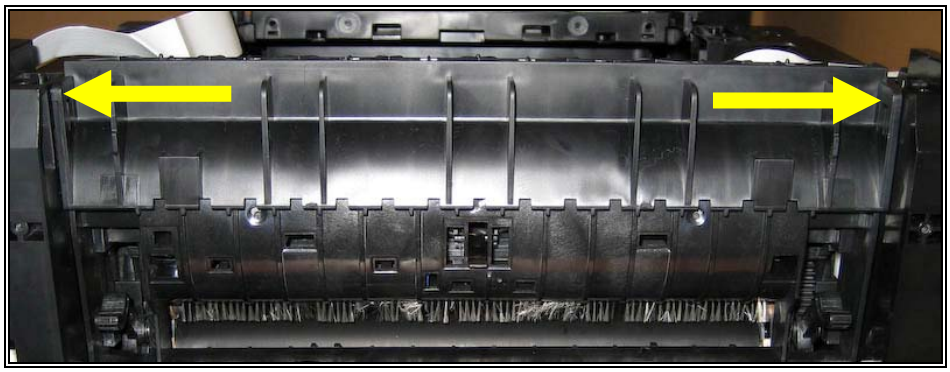
9.6. Rear side

Duplex lever pup guide (only on duplex-machines)

1.) Open the "door rear duplex"
2.) Remove the duplex lever pup guide by pulling it out

Sensor paper out (PCBa S2)

1.) Clip out "paper deflector outside rear"



2.) Remove duplex motor, PSU and MAB
3.) Clip out duplex gear and remove paper out roller
Remove 4 screws (2 screws on each side left/right)

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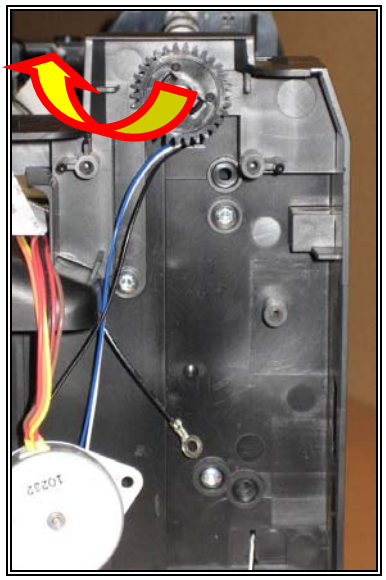
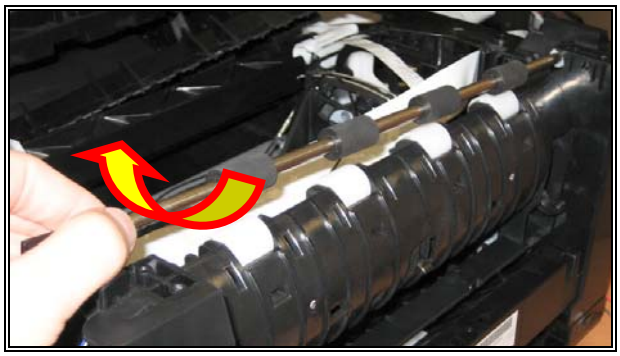
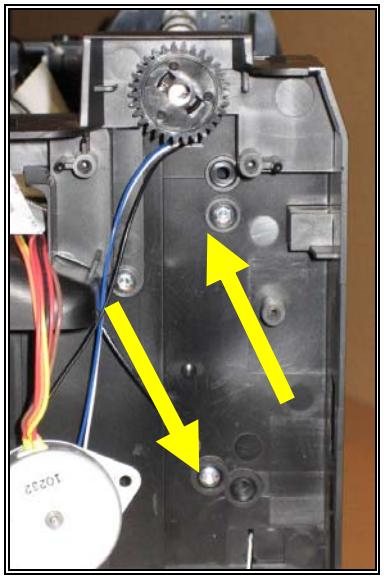
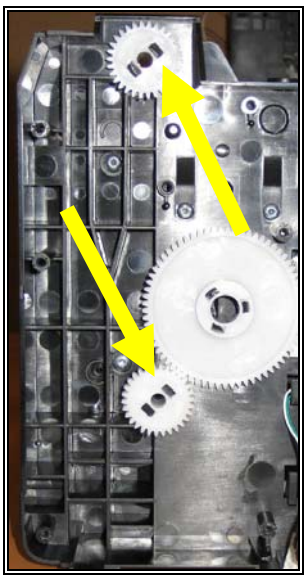




4.) Remove 4 screws (2 screws on each side left/right)





5.) Hang out the paper deflector duplex (is positioned by 4 noses)

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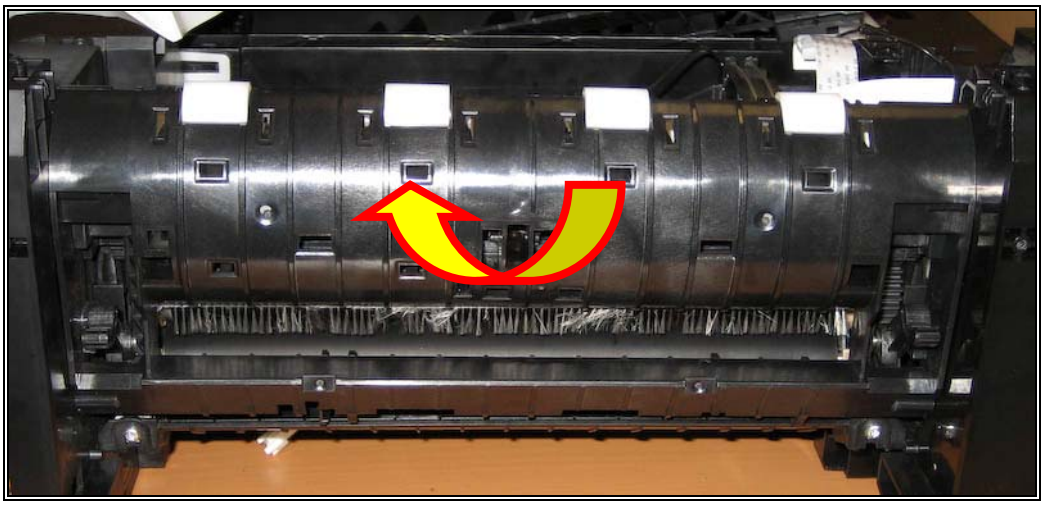
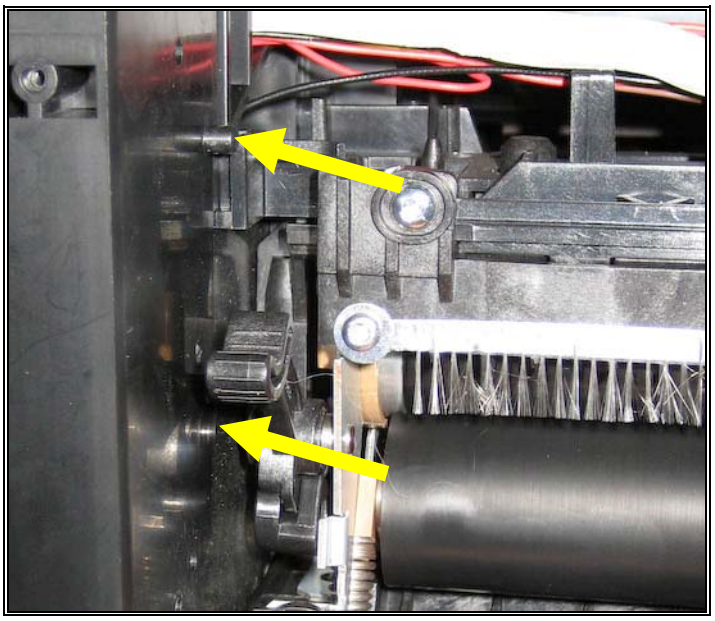
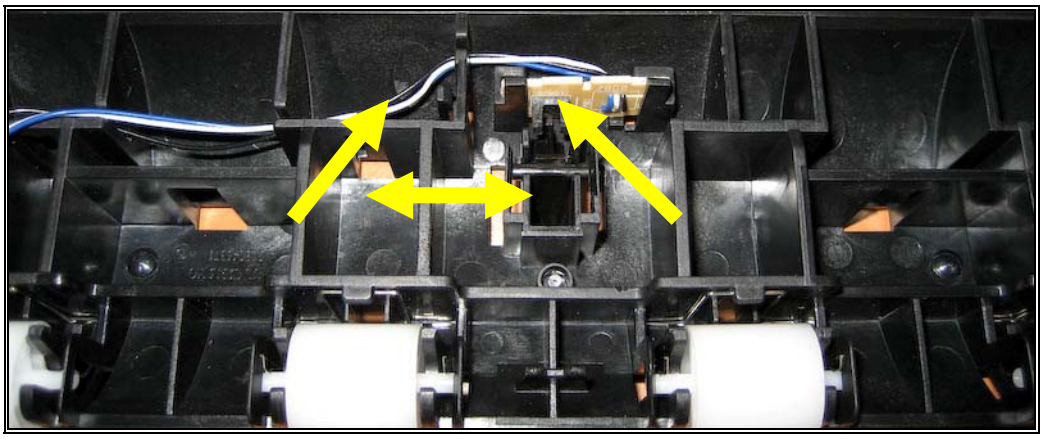




6.) Hang out the PCBa and the sensor lever



7.) Hang out the cable on the PSU

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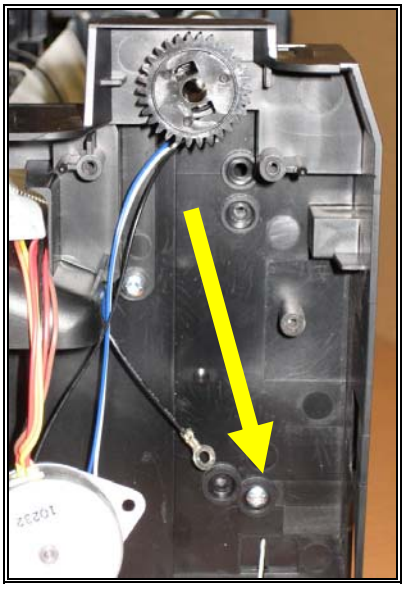
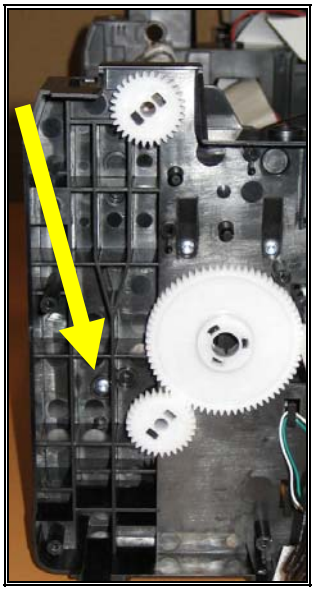
Duplex sensor and door rear duplex

1.) Remove PSU and MAB

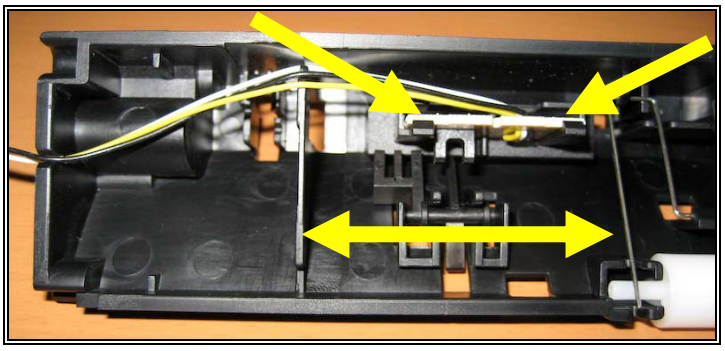
2.) Remove 2 screws (1 screw on each side)





3.) Pull out the "bracket fuser bottom" and remove the cover

4.) Clip out the PCB and the sensor



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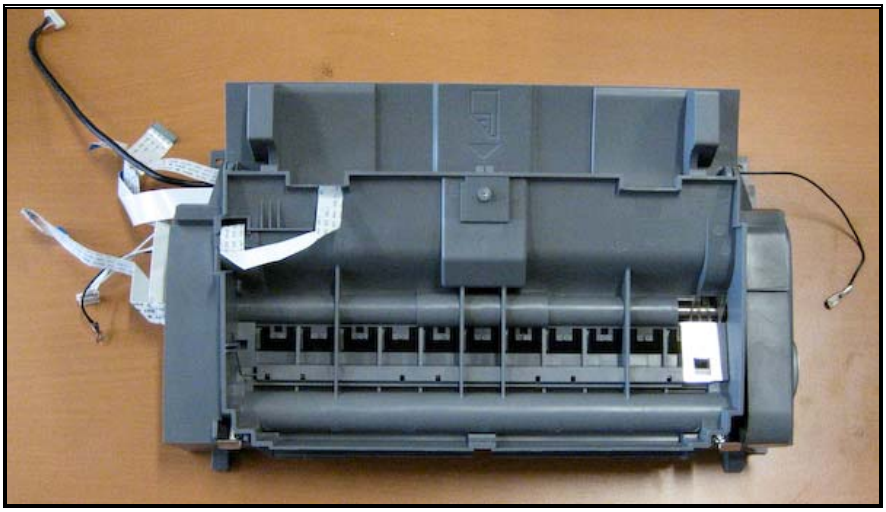
5.) Remove the cable from the PSU
6.) When you have removed the bracket fuser bottom you can clip out the "door rear duplex"

9.7. ADF (automatic document feeder)

Attention: All screws on the ADF are shorter than from the rest of the device. Do not mix them!!!



Remove technical panel

1.) Bring the width guides into position
2.) Pull up the technical panel
3.) Press the release lever and pull out the panel

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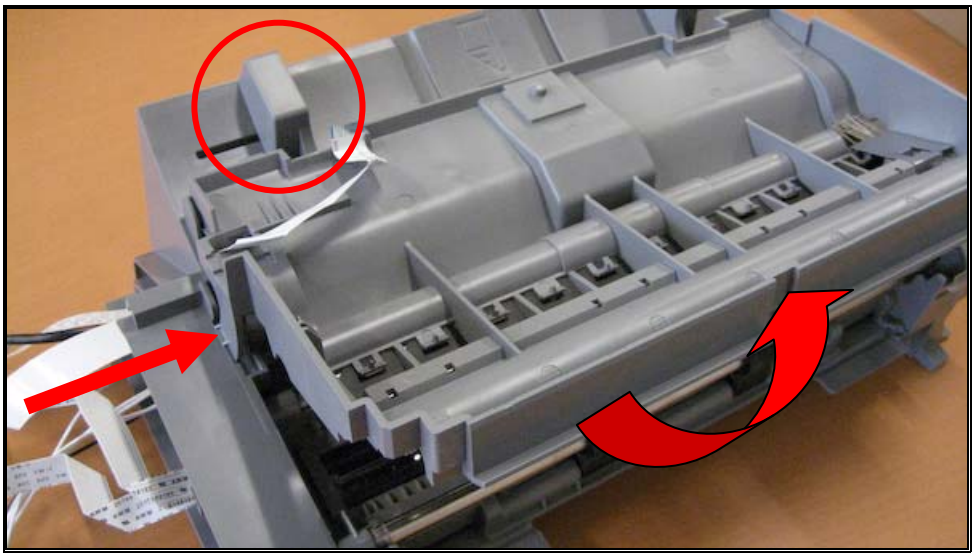
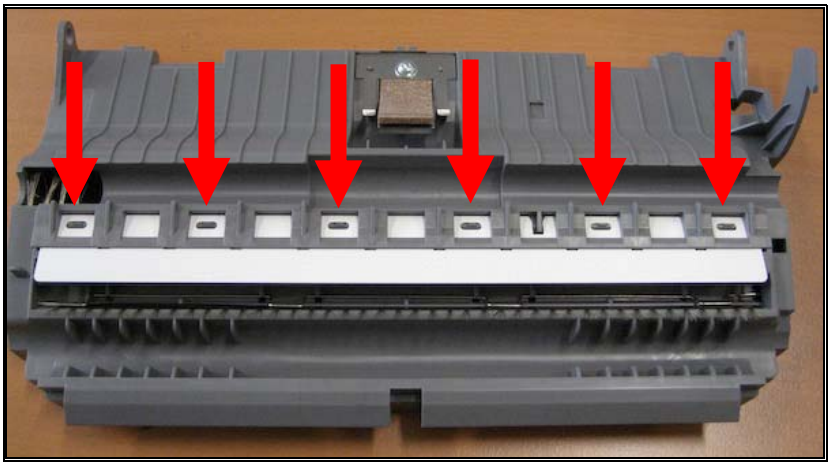


Remove the white foil

1.) Use a flathead screw driver to press out the white foil



2.) Release the white foil

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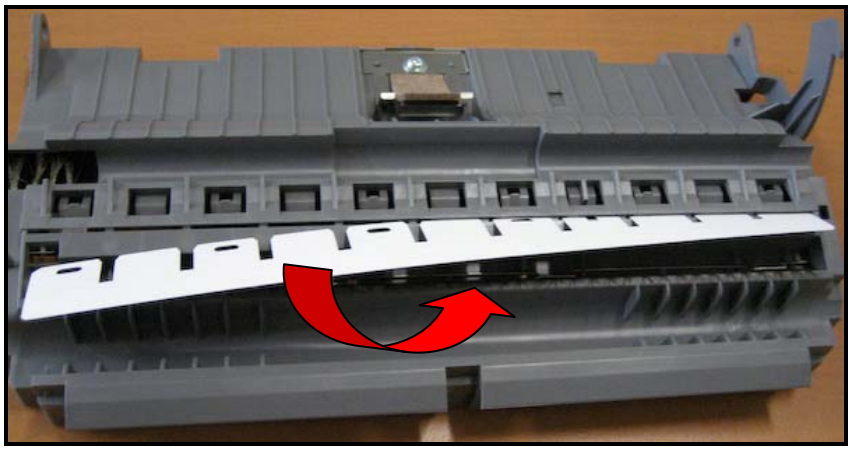

ADF friction pad and ADF spring

1.) Remove the screw and remove the spring/ friction pad

Remove grayscale CIS (black)

1.) Press the snap and lift the CIS with a screwdriver up

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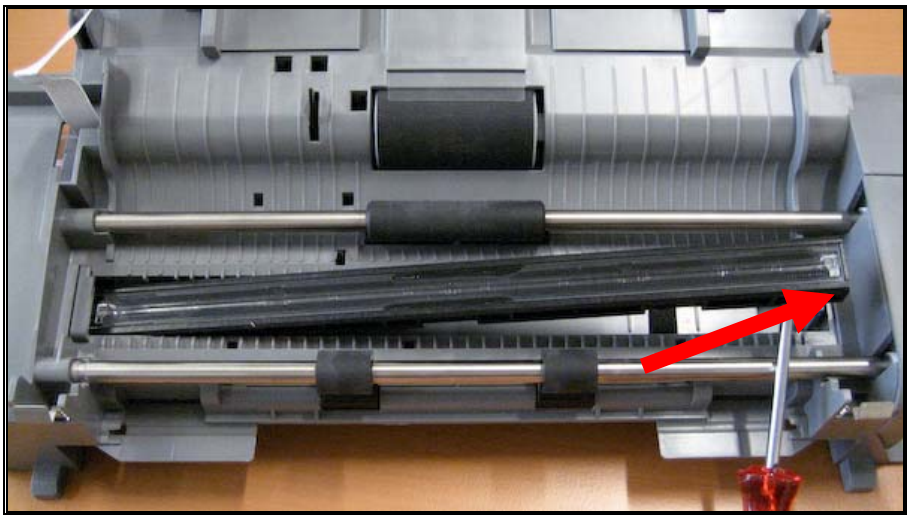
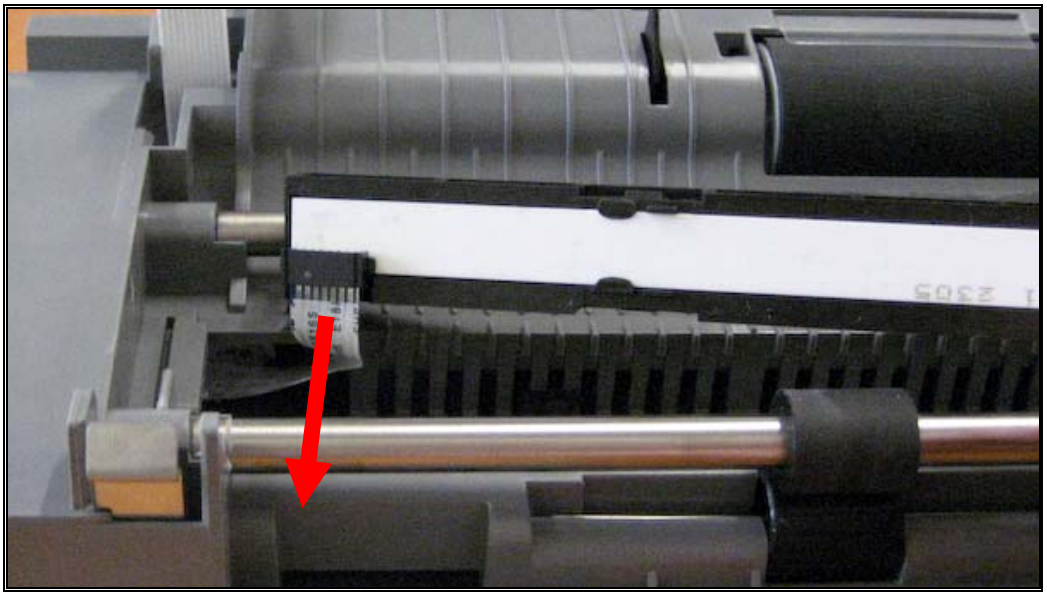


2.) Unplug the CIS-MAB FFC cable



Remove Panel-bottom

1.) Remove 3 screws
2.) Hang out all cables from the guidance

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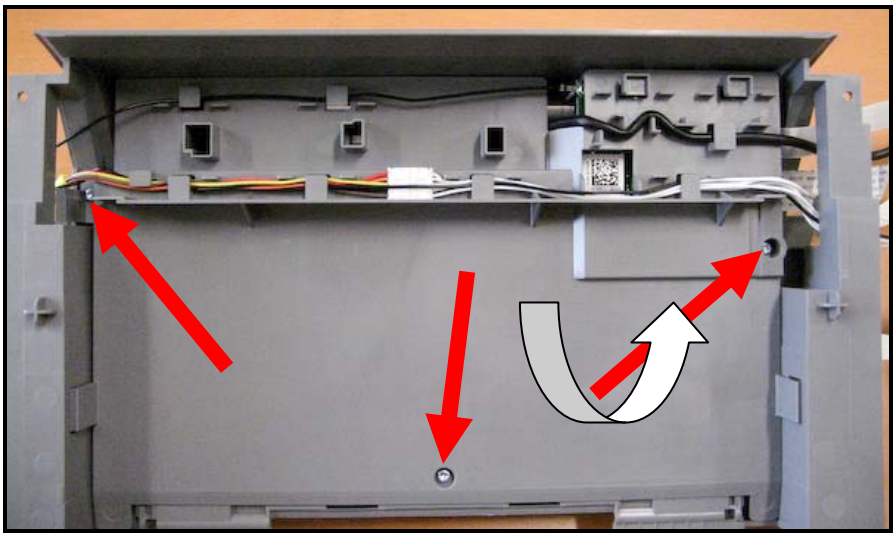
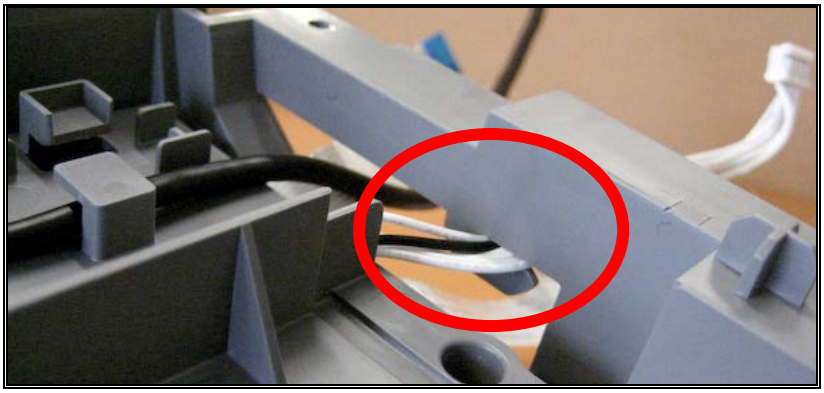
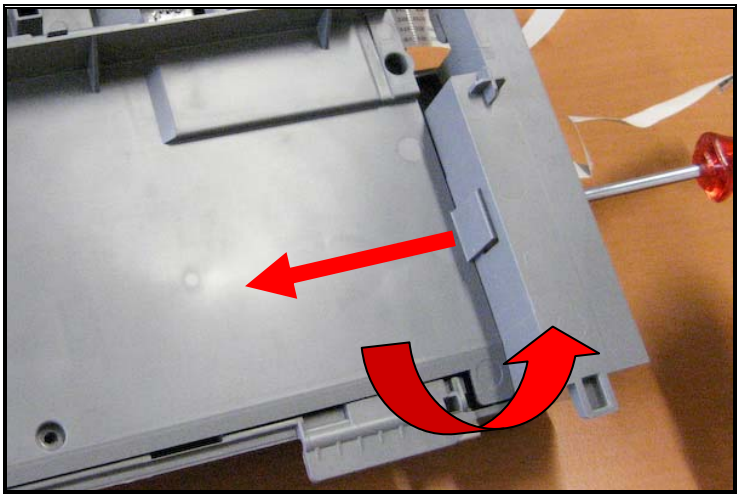


For reassembly: Hang in the cables into this guidance



3.) Lift plate up



Wifi-Module

1.) remove USB cable first

2.) press the snap and release the Wifi-module

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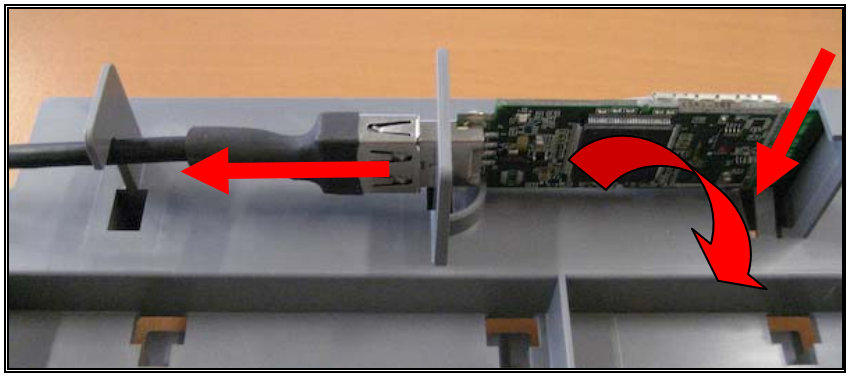
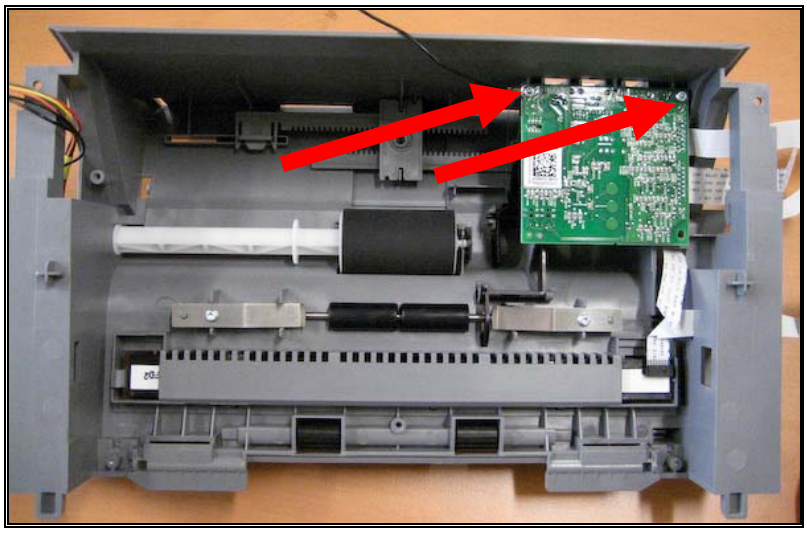


LIU – Line interface unit

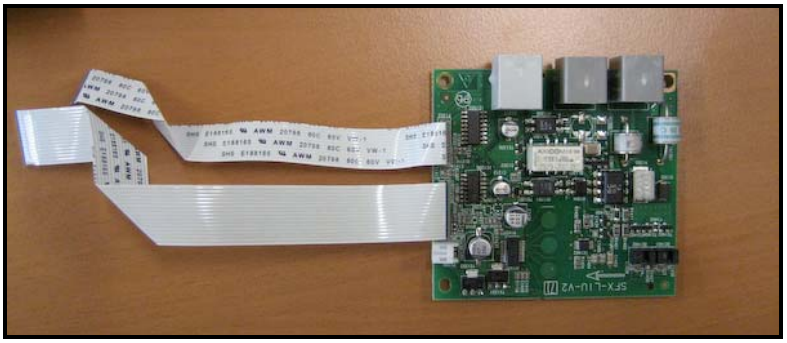
1.) Remove 2 screws

2.)

Attention: Do not forget the ground cable while reassembling



3.) Remove the FFC cables



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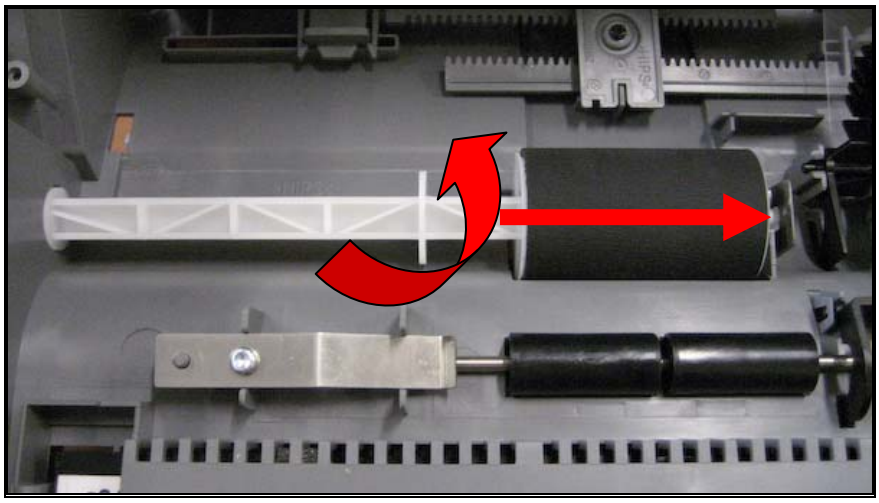
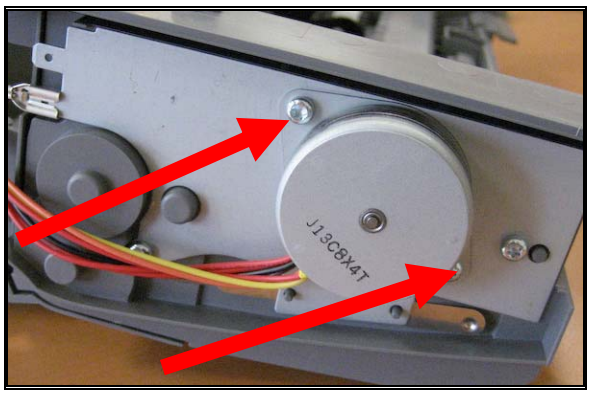
ADF roller

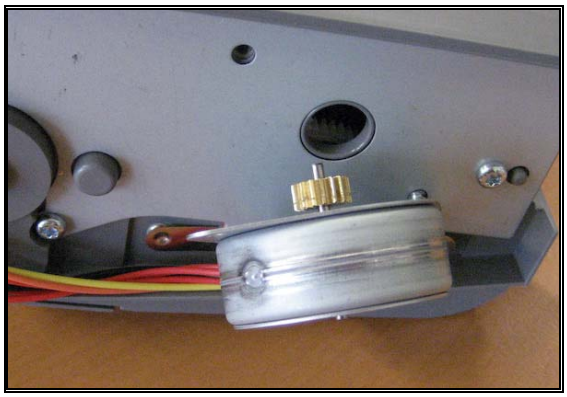
1.) Press the snap and pull up the ADF roller



Stepper motor

1.) Remove 2 screws and hang out the motor





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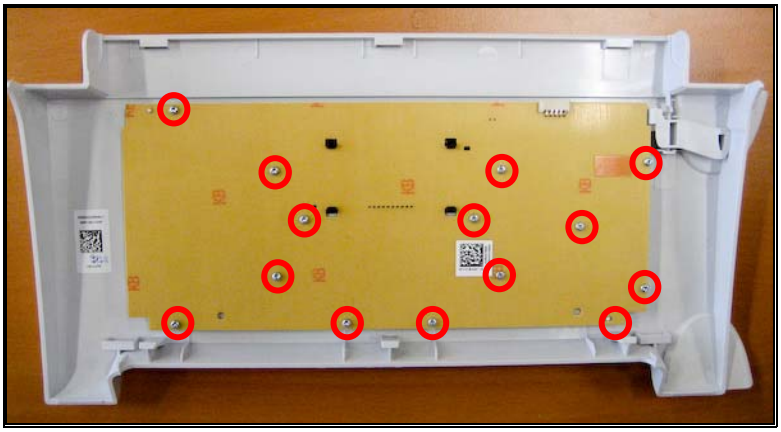
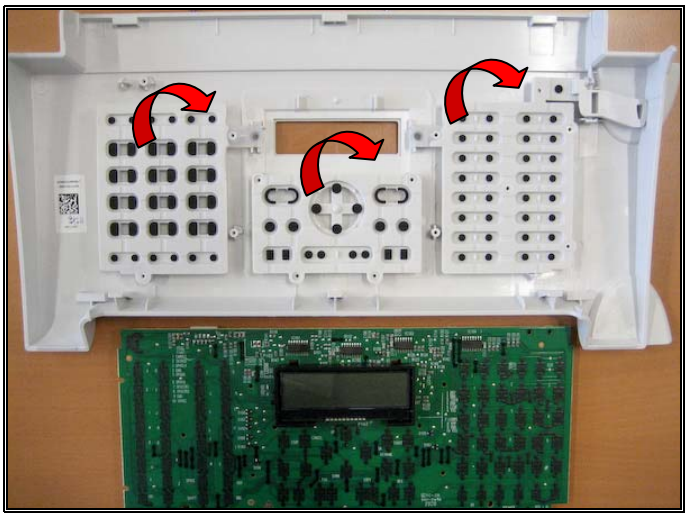
9.8. Panel and OPU

1.) Remove all 14 screws (TX6)



2.) Lift the OPU off



3.) Remove the rubber mats

Take care of the hook switch spring below the alpha-key-pad!!

4.) Press the snap and release the hook switch

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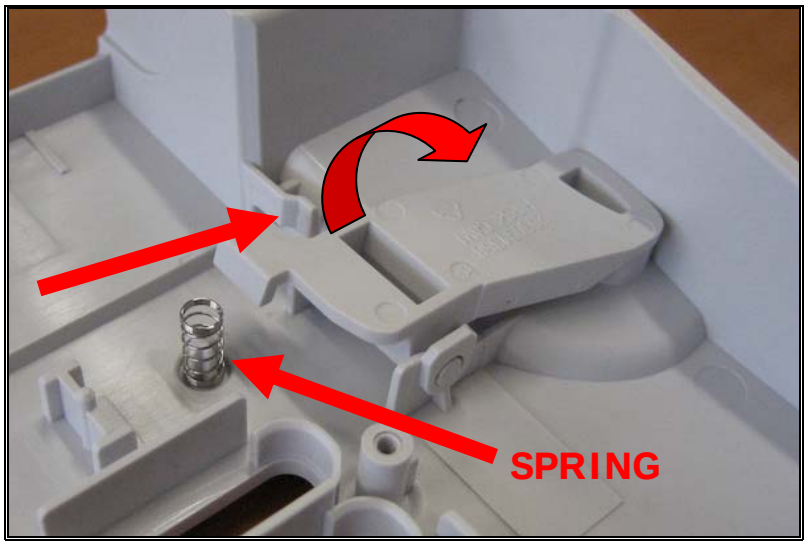

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10. HIGH VOLTAGE TEST SPECIFICATION

10.1.General

Demand

Universal device suitable for use as HV TEST for IT-Equipment according to IEC 60950-1:2005

Abbreviations

HV … High Voltage Test
DUT ... Device under Test
TNV … Telecommunication Network Voltage
SELV … Safety Extra Low Voltage
LMS … LAN Metal Shell

Technical data :

Test Voltage Range: 0 – 4500 V DC (adjustable)

Measurement Current: I_{max} = 0,25 mA

Test Voltages: U_{T1} = +4240 V DC; Duration: min. 1s; Tolerance: +50V/-0V
(4240 V DC or 3000 Vrms AC according to IEC 60950-1 for reinforced/double insulation)
U_{T2} = +2120 V DC; Duration: min. 1s; Tolerance: +50V/-0V
(2120 V DC or 1500 Vrms AC according to IEC 60950-1 for basic insulation)
U_{T3} = +1420 V DC; Duration: min. 1s; Tolerance: +50V/-0V
Quality check of LAN insulation (1000Vac)

Rise / Fall Rate: < 1000 V/ms (⇒ automatic discharge after measuring cycle)

Functional GND check: I_{T1} = 3A AC

Evaluation: Min. 1x / day (applicable before start of production) >>
>> Check of test equipment/cables with reference device

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Terminals / plugs:

DUT >>> TNV = Telephone connector
MAINS = N,L of AC inlet terminal
BODY = PE of AC inlet terminal
SELV = USB connector (GND Pin)
LAN = LAN connector (Pin 1-7)
LMS = LAN Metal Shell

10.2. Description High Voltage Test

General

5.) No start conditions are defined; possibility of automatic or manual operation.
6.) The test voltage is an adjustable DC voltage.
7.) The maximum test current is 0,25 mA and therefore is regarded as safe for humans (no cover necessary).
8.) The duration of the test is 1 second min.
9.) After each test performed, the DUT must be discharged automatically by the test equipment.
10.) Check for proper contact between test equipment and DUT, and verify if main switch is in ON-position during test.

Test procedure

2.1) High Voltage Test -> 100 % test between primary and secondary circuit (SELV):

MAINS [L,N] and SELV+BODY [USB connector (GND-Pin) + PE at AC-inlet]:

a.) Mains inlet:
- N and L connected to HIGH

b.) SELV:
- USB connector (GND-Pin) to LOW

Test conditions:
- U_{T2} = +2120 V DC; I max = 0,25 mA; t min > 1 s

Compliance criteria:
- No breakdown of insulation

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2.2) High Voltage Test -> 100 % test between telecom circuit and MAINS:

TNV-3 [a+ b connected] and MAINS [L,N]:

a.) TNV-3 sockets:
- a and b connected to LOW

b.) mains inlet:
- L and N connected to HIGH

Test conditions:
- U_{T1} = +4240 V DC; I max = 0,25 mA; t min > 1 s

Compliance criteria:
- No breakdown of insulation

2.3) High Voltage Test -> 100 % test between LAN circuit and functional GND:
(only applicable for sets with LAN-socket)

LAN [Pin 1-7] and SELV+BODY [USB connector (GND-Pin) + PE at AC-inlet]:

a) LAN socket:
- LAN Pin 1-7 connect to HIGH

b.) SELV+BODY:
- USB connector (GND-Pin) and/or PE at MAINS AC-inlet to LOW

Test conditions:
- U_{T3} = +1420 V DC; I max = 0,25 mA; t min > 1 s

Compliance criteria:
- No breakdown of insulation

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2.4) High Voltage Test -> 100 % test between LAN circuit and functional GND:

(only applicable for sets with LAN-socket)

LAN [Pin 1-7] and SELV+BODY [USB connector (GND-Pin) + PE at AC-inlet]:

a.) LAN socket:

- LAN Pin 1-7 connect to HIGH

b.) SELV+BODY

- USB connector (GND-Pin) and/or PE at MAINS AC-inlet to LOW

Test conditions:

- U_{T3} = +1420 V DC; I max = 0,25 mA; t min > 1 s

Compliance criteria:

- No breakdown of insulation

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11. TROUBLE SHOOTING

11.1. Overview

For all failure tracking, we recommend to use the test charts which are shown below. To print them out you can use the "SFx Mains and service controller". Go to "UUT" and "Print" to select and print the test charts.

11.2. Failure tracking

Failure description	To check	Action
Bad printout	Grease on Transfer roller?	Clean the roller
	Orange cartridge protection paper stucks are blocking the contact pins	Remove the paper
	Cartridge OK?	Try with new cartridge
	Printout shows Ghosts	Change Fusing unit
No printout or No paper feed	Pick-up assy in correct position?	Snap in the pick-up assy to correct opposition or swap it
	Paper cassette size set to paper size?	Correct paper size
Paper Jam The paper is always the blank paper to print on!	Paper Exit Sensor missing or damaged?	Replace Paper Exit sensor
Document Jam The document is always the document you want to scan!	Technical Panel opened?	Close technical panel
	ADF sensor blocked or damaged?	Unblock or swap sensor

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	Document feeding roller dirty?	Clean or change roller
Copied pages only black	Local printout (e.g. function list) ok? CIS and/or cable damaged?	Do white reference calibration (menu 933) Replace CIS and/or cable
Scanned documents are dirty	CIS glass dirty or damaged? CIS cable damaged /twisted	Clean CIS with cloth or swap Swap CIS cable
White printout	Cartridge ok / full? CIS cable not connected White calibration missing	Use new cartridge Check CIS cable Do calibration M 9-3-1
Light / bright printout	Cartridge ok/empty? ECO mode enabled?	Use new cartridge Disable ECO mode
No Display	Power ok? OPU and/or OPU cable damaged or not connected	Check power cable and Power supply Check/change OPU and/or OPU-cable
No document feeding	Document sensor OK? Scanner Motor ok?	Replace/unblock sensor Replace scanner motor
Firmware Bugs	Display shows "Printing..."	Perform software update
Lock-Code forgotten	Use universal lock code	2204 or 3172

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11.3.Periodical horizontal lines in the printout

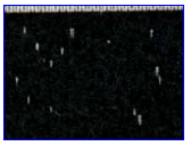
If the device has periodical horizontal distances to each other, please measure it. The list below shows you, which part could be the reason for it.

Distance	Effected Part	Fault repair
~ 94mm	OPC	Change cartridge
~ 45mm	Developer Roller	Change cartridge
~ 37mm	Charger Roller	Change cartridge
~ 51mm	Transfer Roller	Change transfer roller in the engine
~ 91mm	Fuser Roller	Change fusing unit

11.4.Defect characteristics

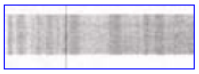
Black Blotch

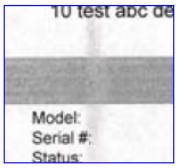
Cometing



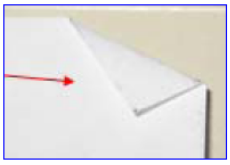
Dirty LED Bar

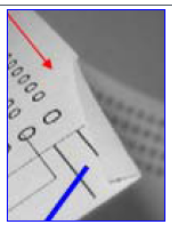
Dirty OPC



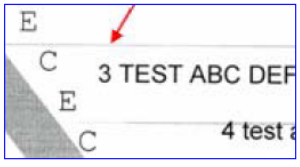


Dog Ear



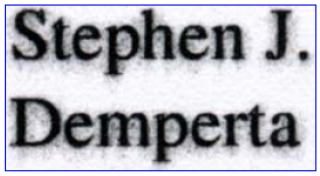


ESD Discharging



ESD Rib Marks

External Light Influence



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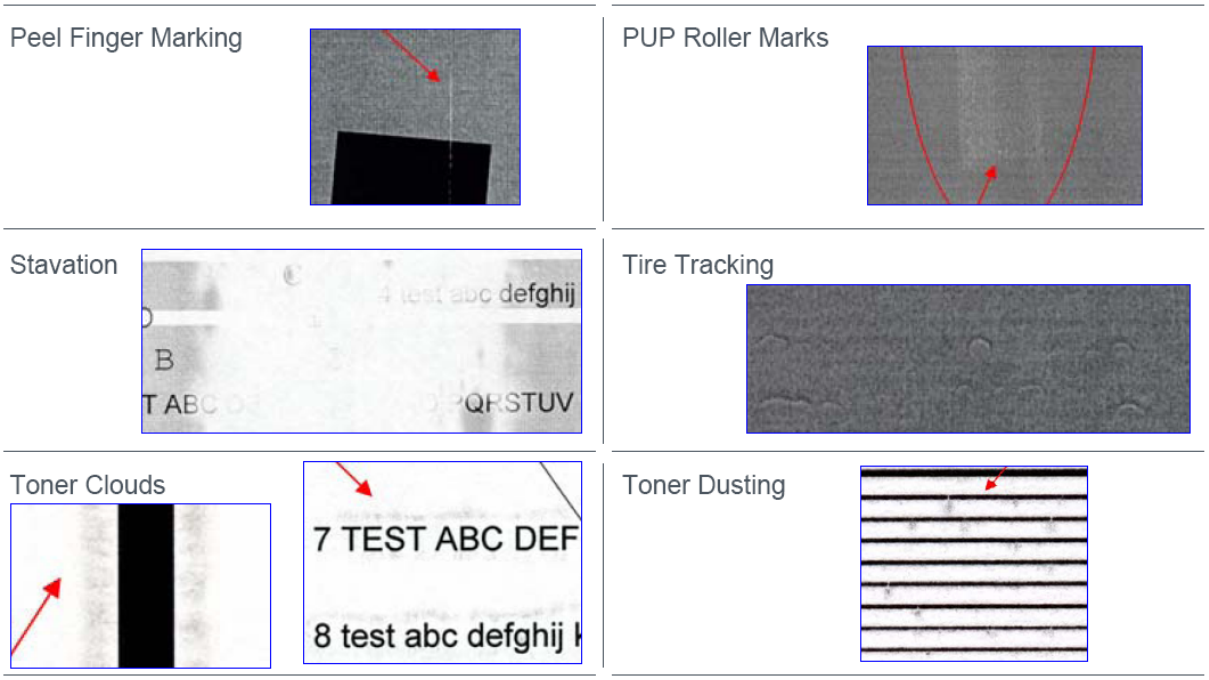

11.5.Fax Transmission Errors

On the fax transmission report are the following error messages possible.

Error Code	Text printed on transmission report
AC_COMABAN	Busy or no fax answer
AC_NUMBRU	Burnt number
AC_OPSTOP	User break
AC_TOUCHEHS	Non programmed number
AC_SCANHS	Scanning error
AC_IMPHS	Printer error
AC_RELSP	No document to be polled
AC_LGRECHS	Received document error
AC_BLOREC	Transmission failed
AC_CODAGEHS	Incompatible coding
AC_FORMAHS	Incompatible mode or format
AC_ACCPROT	Access denied
AC_SATMEM	Memory full
AC_SATFILIMP	Memory full
AC_COROCCUPE	Busy or no fax answer

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T30_T1E	Check called number
T30_NODOC	No document to be polled
T30_VIT	Can't communicate
T30_NORTC	Subscriber has disconnected
T30_ESSAI	Subscriber has disconnected
T30_3T2	Subscriber has disconnected
T30_NTCF	Disconnected
T30_DCN	Subscriber has stopped

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11.6.List of reports

Report	Description	AUTO/ MAN.	<Info>
Function List	List of all terminal menus, sub-menus and their identification number	A/M	81 FUNCTION LIST
Phonebook	List of all contacts in your address book and the group list	M	515 PRINT
Transmission report	List of Parameters of the performed fax transmission with reduced version of the first page	A	
Reception report		A	
Broadcast report	List of the performed fax transmissions to multiple recipients (with reduced version of the first page).	A	
Fax Error report	Report is printed in case an error occurs during reception or transmission.	A	
Fax Journal	List of the last 30 transmissions(incoming and outgoing faxes)	A/M	82 LOGS
Call List (Redial/Call log)	The list of 'used' numbers – the call list, (instead of a separate redial and call log)		
FAX HEADER	Blank (empty) template for fax transmission	M	45 FAX HEADER 87 FAX HEADER
Command list	List of commands(documents with it's status) waiting in the queue for transmission	M	84 COMMANDS
Settings	Multi page list of all settings of the device parameters	M	80 PRINT SETUP
Sudoku	Sudoku game puzzle/solution printout	M	86 SUDOKU
Calendar	Simple calendar of selected year	M	85 CALENDAR
Documents list	List of all documents (jpeg,tiff,pdf) stored in USB mass storage plugged in the device USB connector	M	9111 LIST
Order sheet	Instruction for purchase order of new toner(country dependent)	M	
PCL fonts list	List of PCL fonts installed on your terminal	M	204 PCL FONTS

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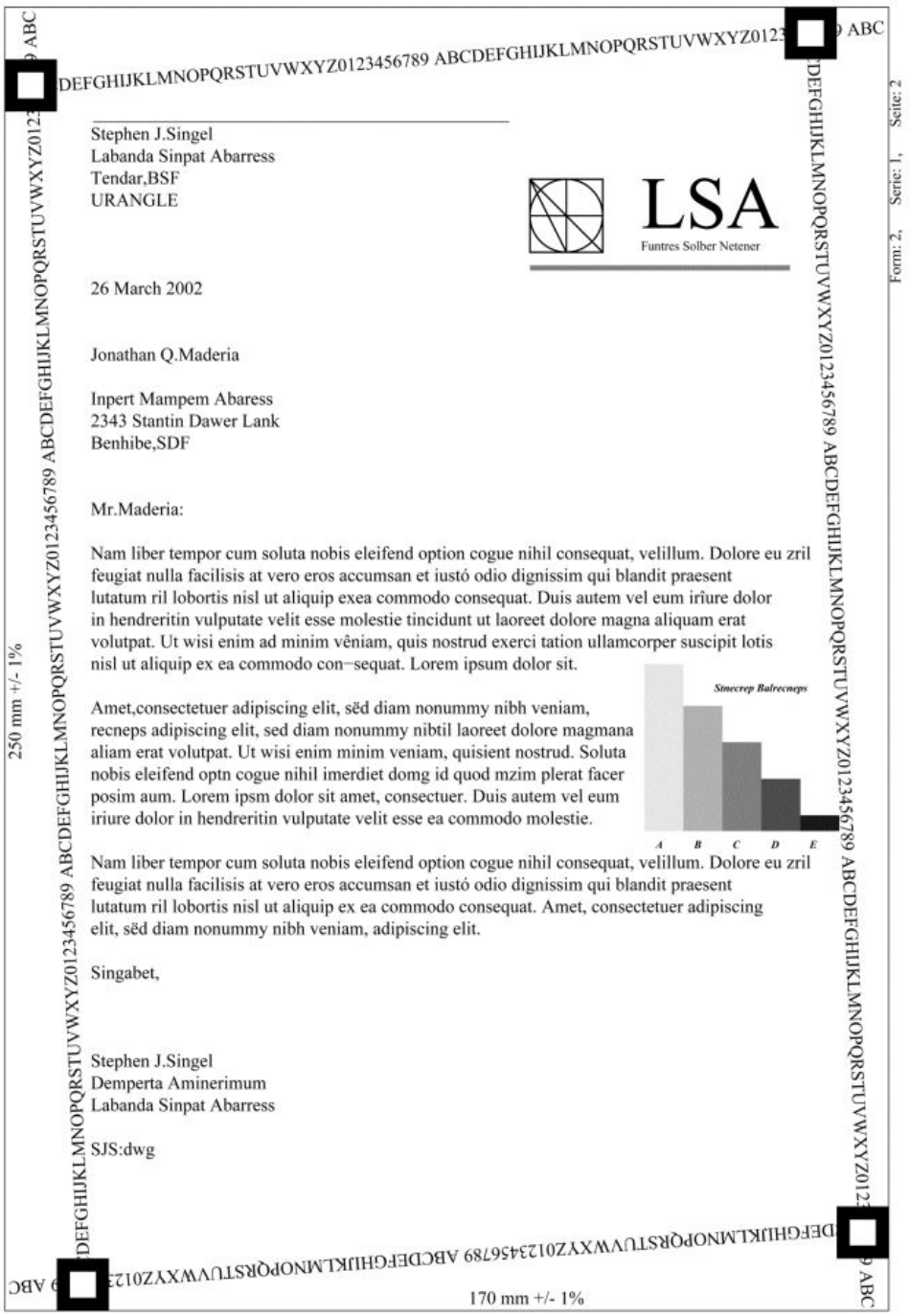
11.7.Test charts

ISO margin test chart (LSA Test chart)


DEFGHIJKLMNOPQRSTUVWXYZ0123456789 ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789 ABC
Stephen J.Singel
Labanda Sinpat Abarress
Tendar,BSF
URANGLE
LSA
Funtres Solber Netener
26 March 2002
Jonathan Q.Maderia
Inpert Mampem Abaress
2343 Stantin Dawer Lank
Benhibe,SDF
Mr.Maderia:
Nam liber tempor cum soluta nobis eleifend option cogue nihil consequat, velillum. Dolore eu zril feugiat nulla facilisis at vero eros accumsan et iustó odio dignissim qui blandit praesent lutatum ril lobortis nisl ut aliquip exea commodo consequat. Duis autem vel eum irîure dolor in hendreritin vulputate velit esse molestie tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim vêniam, quis nostrud exerci tation ullamcorper suscipit lotis nisl ut aliquip ex ea commodo con−sequat. Lorem ipsum dolor sit.
Amet,consectetuer adipiscing elit, sëd diam nonummy nibh veniam, recneps adipiscing elit, sed diam nonummy nibtil laoreet dolore magmana aliam erat volutpat. Ut wisi enim minim veniam, quisient nostrud. Soluta nobis eleifend optn cogue nihil imerdiet domg id quod mzim plerat facer posim aum. Lorem ipsm dolor sit amet, consectuer. Duis autem vel eum iriure dolor in hendreritin vulputate velit esse ea commodo molestie.
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A B C D E
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Singabet,
Stephen J.Singel
Demperta Aminerimum
Labanda Sinpat Abarress
SJS:dwg
250 mm +/- 1%
170 mm +/- 1%
Form: 2, Serie: 1, Seite: 2

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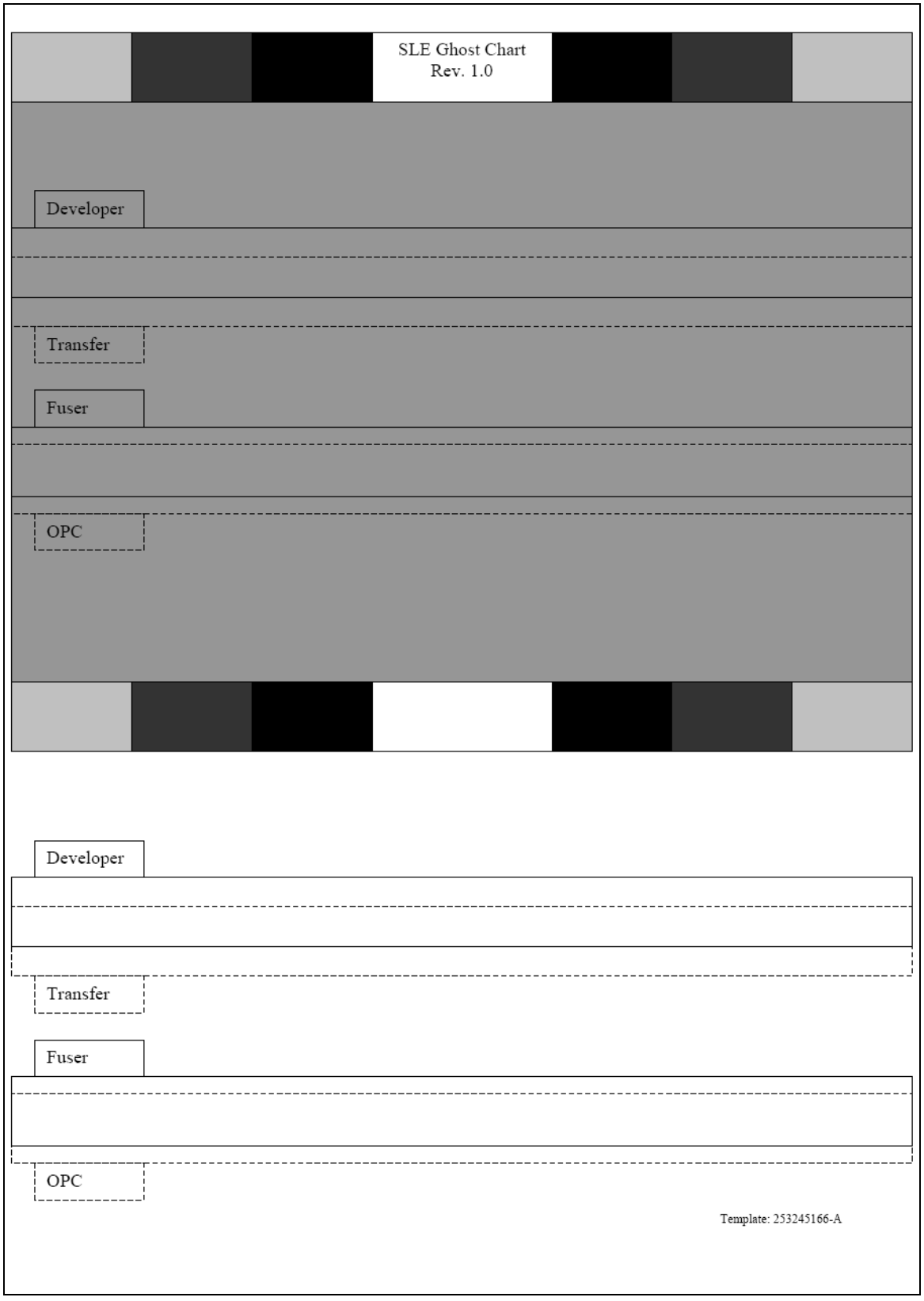
Ghost Test chart



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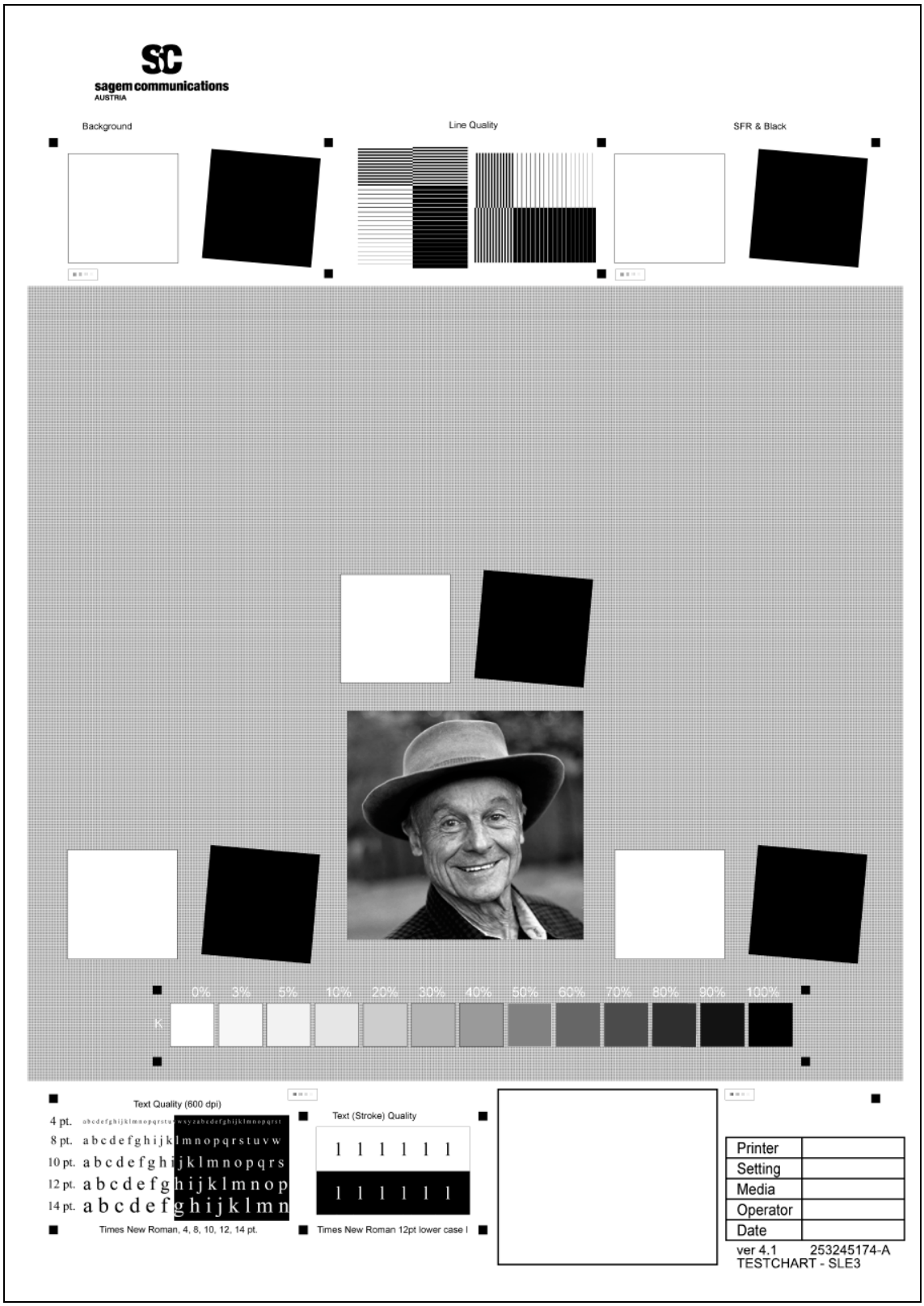
Line Test chart (Grandfather test chart)



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12. HINTS

12.1.Paper cassette protection

This carton is necessary to prevent damage of the Pick-Up during mail shipment

12.2.Tape fixation for mail shipment

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13. REMARKS

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